THE EPIDEMIOLOGY OF HIV/AIDS IN VIRGINIA 1983-1996

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THE EPIDEMIOLOGY OF HIV/AIDS IN VIRGINIA, 1983-1996

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BACKGROUND

Virginia's HIV Community Planning Committee (VHCPC) is responsible for annual development of a Comprehensive HIV Prevention Plan for the Commonwealth of Virginia, through the prioritization of people at risk and identification of strategies, interventions, and behavior modification techniques to reduce transmission of the human immunodeficiency virus. On behalf of the VHCPC, the Survey Research Laboratory (SRL) of Virginia Commonwealth University conducts an ongoing series of research and technical assistance projects to gather and analyze data in support of the Committee's work and to develop a statewide evaluation system through which to assess the impact of HIV prevention initiatives. This report is a significant component of the SRL's work for the VHCPC during 1997. Preparation of *The Epidemiology of HIV/AIDS in Virginia, 1982-1996* has been accomplished in conjunction with the Ryan White Subcommittee of the VHCPC and it is hoped that the document will also be useful to Virginia's Ryan White Program.

INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS) became a reportable disease in the Commonwealth of Virginia in July 1983, requiring all physicians and hospitals in the state to report persons with AIDS to their local health department. The requirement to report individuals who test positive for antibodies to the human immunodeficiency virus (HIV) became effective in July 1989. Between 1982, when initial AIDS reports were received, and December 31, 1996, a total of 9,053 persons with AIDS were reported to the Virginia Department of Health, HIV/AIDS Surveillance Program, with over 60% of the cases (5,562) reported since January 1993. From July 1989 through December 1996, 9,230 persons with antibodies to HIV were reported. In 1996, in Virginia, only *Chlamydia trachomatis*, gonorrhea, chickenpox and salmonellosis infections were reported more frequently than AIDS or HIV infection.

The goal of HIV/AIDS public health programs is to ultimately prevent disease, whether primarily through initiation of programs designed to prevent the transmission of HIV into susceptible hosts or secondarily by preventing the onset of AIDS in HIV-positive individuals. Successful

secondary prevention programs depend on timely identification of HIV-positive persons, evaluation of services available to these persons and initiation/modification of services when necessary. Primary prevention depends predominantly on behavior modification among persons at highest risk due to behavior. It is therefore important to identify those at high risk and to define prevention programs specifically for the behaviors characteristic of different high-risk groups.

The purpose of this report is to define the HIV/AIDS population in Virginia in terms of basic demographic information and to describe changes in that population that are occurring over time. In addition, this report will characterize the distribution of known risk behaviors among HIV/AIDS cases, the association between specific risk behaviors and demographic characteristics and trends in these behaviors over time. Three special population groups were chosen for inclusion in this report: women of childbearing age, gay men of color and adolescents. These groups are ones for whom the epidemic is not waning and therefore, important targets for prevention programs. Other groups will be highlighted in future editions of this report. It is hoped that the information in this report will assist public health workers and educators throughout the Commonwealth of Virginia to design, implement, and evaluate a broad range of HIV prevention and service activities.

Data Sources in Virginia

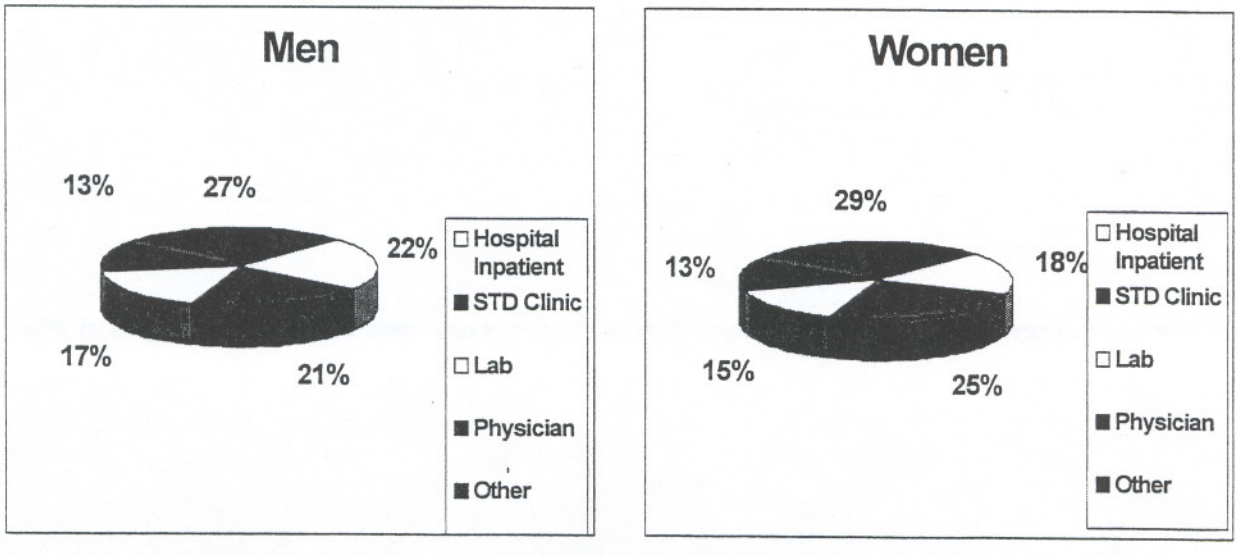
The majority of the data to be presented in this report have been gathered through routine surveillance activities. In addition, data from the blinded seroprevalence study of women following childbirth will be included.

Testing for HIV is offered through numerous sources in Virginia, including the private medical community, public medical clinics and the military. Testing is usually voluntary and the receipt of counseling before and/or after receiving test results is required by law. The majority of HIV reports have been received from the following sources: Sexually Transmitted Disease (STD) Clinics located at local health departments (21% of male reports, 25% of female reports), hospitals (22% of males, 18% of females), laboratories (17% of males, 15% of females) and

private physicians (13% of males, 13% of females) (Figure 1). Report sources included in the other category are such things as active surveillance and validation studies, health department clinics other than STD clinics, correctional facilities, and blood banks. When public, private and military sources are compared, it is seen that women are significantly more likely than males to be reported from a public health care source than a private or military one. The military accounts for approximately 5% of all reports of HIV infection and 93% of those are males.

In contrast, for reports of AIDS in which the source of reporting is known, greater than 35% have been identified through active surveillance and validation studies. Additional sources have included inpatient hospital reporting (10% of male reports, 12% of female reports), reports from other states regarding Virginia residents (males 10%, females 5%, 17% of which were on persons who died out of state), Virginia death certificates (males 8%, females 7%), private physicians (males 4%, females 5%), and all health department clinics (males 3%, females 4%). As with HIV, women were more likely to be identified through public health facilities than males. The military has reported approximately 4% of the AIDS reports.

SOURCES OF HIV REPORTS IN VIRGINIA, 1989-1996



Rounding error may prevent percentages from equaling 100%

Figure 1

Reporting of cases of AIDS and/or HIV from the private sector relies heavily on passive reporting, i.e., physicians and hospitals who report these cases because of the legal obligation to do so. In order to determine the completeness of this passive reporting system, the HIV/AIDS Surveillance Program initiated validation studies in 1990 and expanded them in 1993. Since 1993, 23 such studies have been conducted, four the first year, seven in 1994, eight in 1995 and four in 1996 (Table 1). These studies have shown that passive reporting of HIV/AIDS cases in Virginia is not complete. Table 1 describes the number of case reports that have been identified through these validation activities. The reasons for incomplete reporting may be several, including concern on the part of the physician for the confidentiality of the information and possible repercussions to the patient.

Table 1: HIV/AIDS Cases Identified through Validation Studies, 1993-1996

Year of Report	No. of Studies	HIV Reports			AIDS Cases		
		Non-Validation (%)	Validation (%)	Total	Non-Validation (%)	Validation (%)	Total
1993	4	1425 (95.2)	72 (4.8)	1497	1577 (96.5)	57 (3.5)	1634
1994	7	997 (89.6)	116 (10.4)	1113	996 (81.8)	222 (18.2)	1218
1995	8	975 (77.6)	282 (22.4)	1257	1027 (69.5)	450 (30.5)	1477
1996	4	883 (89.8)	101 (10.2)	984	1190 (96.5)	43 (3.5)	1233

Anonymous testing for HIV is available at 20 Anonymous Testing Sites (ATSs) located across the state. Pre- and post-test counseling is offered at these sites and risk behavior information is gathered. The percent of individuals utilizing the ATSs who test positive for HIV is not representative of the level of HIV infection in the Virginia population as a whole for the majority of persons requesting testing at these sites consider themselves to be at risk for HIV infection. This data does give an idea of the infectivity rate among persons exhibiting different risk behaviors. An addendum to this report will analyze the use of these ATSs and look for trends in who uses them, repeat usage and counseling procedures.

Changes in the AIDS Case Definition

The changes in the AIDS case definition that were implemented in 1993 represent the fourth time this case definition has been modified (Pre-1985, 1985, 1987 and 1993). As more has been learned about the natural history of the disease, public health officials at the Centers for Disease Control and Prevention (CDC) have modified the definition to include additional indicator diseases as definitive proof that infection with HIV is causing illness in the host. In January 1993, the definition was expanded to include persons infected with HIV who are diagnosed with pulmonary tuberculosis, invasive cervical cancer or recurrent pneumonia, or who have a CD4 T-cell count less than 200/mm^3. This is the first AIDS case definition to include an immunologic marker with or without evidence of clinical disease. This change in the case definition greatly increased the number of AIDS reports recorded. Since 1994, persons meeting the immunologic case definition for AIDS have accounted for over 50% of all AIDS reports recorded.

SECTION I. STATEWIDE OBSERVATIONS

A. INCIDENCE OF AIDS IN VIRGINIA

The number of AIDS cases reported in Virginia increased steadily from <100 in the years 1982-84 to 751 in 1992, but since that time, the annual number of reports has averaged over 1,200 and the trend has been erratic (Figure 2; Table 2). The number of AIDS cases reported in 1996 (1,233) was 20% less than the 1,477 cases reported in 1995 and 2% less than the five year average of 1,263 reports. The annual incidence rate has increased from 10.5 cases per 100,000 persons in 1990 to 18.4 cases per 100,000 in 1996, with a peak incidence of 25.2 cases per 100,000 in 1993 (Figure 3). (In 1995, Virginia's incidence rate was among the top 15 of U.S. states and territories.)

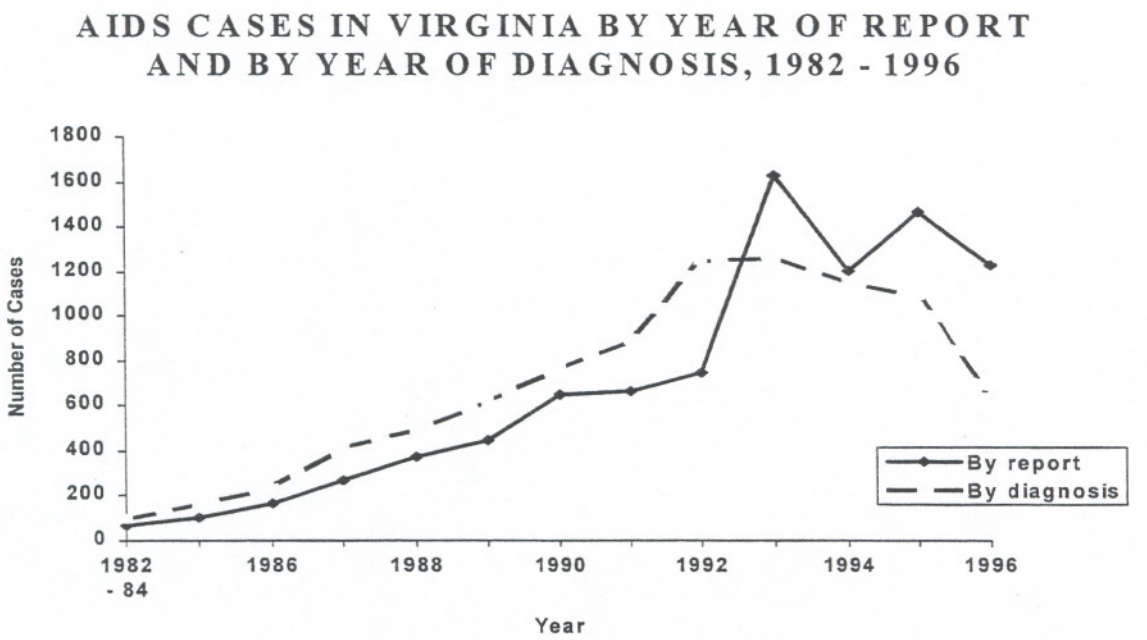


Figure 2

The fluctuations seen since 1992 are difficult to interpret for two reasons. First, the expanded AIDS case definition that went into effect in January 1993 greatly impacted the number of persons reported with AIDS. During 1993, the number of AIDS reports received (1,634) was more than twice the number received in 1992 (751) and 46% of those reports fit only the

expanded case definition. Second, as mentioned previously, beginning in 1990, the HIV/AIDS Surveillance Program initiated validation studies. In 1995, cases identified through these eight studies accounted for 31% of all AIDS cases reported that year (Table 1). It will take several years of reporting using the same AIDS case definition and continued validation studies before the true trend in incidence of AIDS in Virginia will be clear.

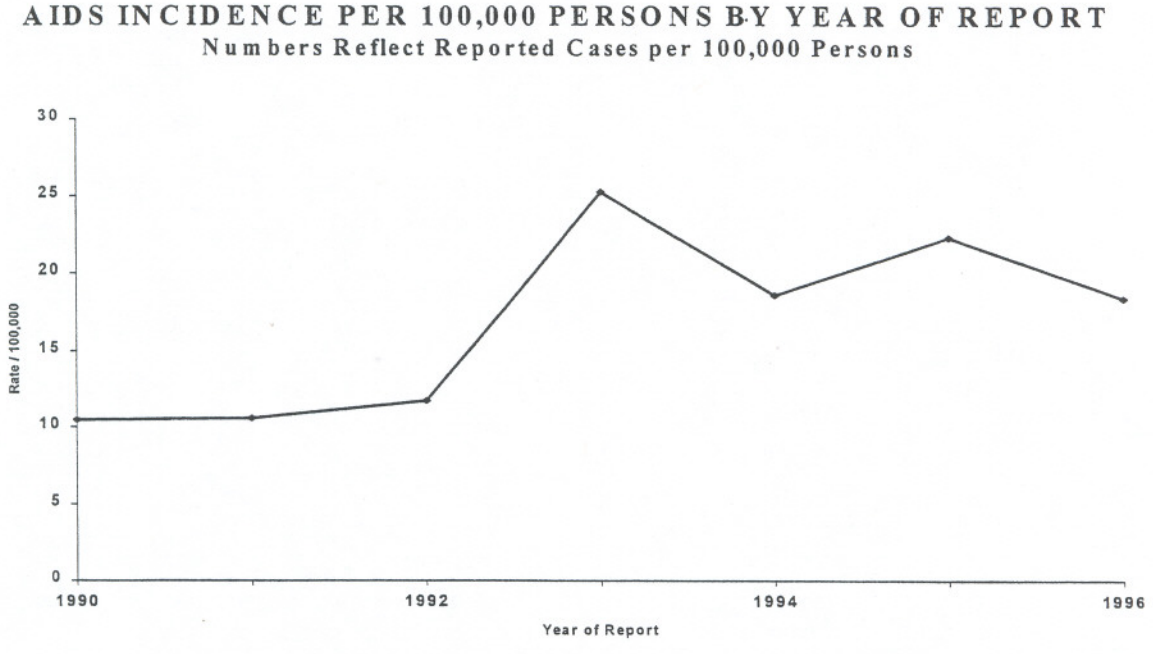


Figure 3

If the number of AIDS cases in Virginia are examined by year of diagnosis rather than year of reporting (Figure 2), a smoother curve with an earlier increase in the number of cases over time is seen. The delay and fluctuations in report date are due to the lag time between diagnosis and reporting. A peak in the number of cases diagnosed is seen during 1992 and 1993 (1,252 and 1,274, respectively), due primarily to the expansion of the AIDS case definition. Since 1993, the number of cases diagnosed with AIDS per year has declined as the initial impact of the expanded case definition becomes normalized. The number of AIDS cases diagnosed in 1996 (640) is the lowest number since 1989 when 618 cases of AIDS were diagnosed, but as 1997 reports are received this number will probably rise.

Table 2. Persons Reported with AIDS, by Race and Sex, Virginia

	Males					Females					
Year of Report	White Male	Black Male	Hispanic Male	Other Male	Total Male	White Female	Black Female	Hispanic Female	Other Female	Total Female	Total
1982-1990	1173	651	60	15	1899	68	102	7	1	178	2077
1991	335	240	14	0	589	20	49	3	2	74	663
1992	348	267	26	5	646	26	75	3	1	105	751
1993	680	653	39	9	1381	59	183	10	1	253	1634
1994	490	514	27	8	1039	42	129	5	3	179	1218
1995	590	581	29	7	1207	77	179	11	3	270	1477
1996	407	561	34	10	1012	36	174	9	2	221	1233
Total	4023	3467	229	54	7773 (85.9)	328	891	48	13	1280 (14.1)	9053 (100)

Deaths Due to AIDS

There were 811 deaths attributed to AIDS in 1995, the latest year for which death statistics in Virginia are available, an increase of 17% over 1994 (694 deaths)[1]. During 1995, AIDS deaths were the 8th leading cause of death in Virginia, up from the 11th leading cause in 1994. The first year that deaths due to AIDS were reported was 1987, when 194 deaths occurred for a statewide death rate of 3.3 AIDS deaths per 100,000 population. The death rate has steadily increased to a high of 12.4 deaths per 100,000 population in 1995. As shown in Figure 4, the death rate among blacks has consistently been 2-4 times greater than the rate in whites.

The majority of AIDS deaths in 1995 were to males (84%, 683/811) and slightly more to white males than to black males (652 versus 625, respectively). Males in the 35 to 44 year age group had the highest sex- and age-specific rate (57.5 deaths per 100,000 males 35-44 years) and within that group, black males had a rate 4.5 times the rate in white males 35-44 years (164.0 per 100,000 black males versus 36.7 white males).

1 Virginia Department of Health, Center for Health Statistics, 1995 Annual Report

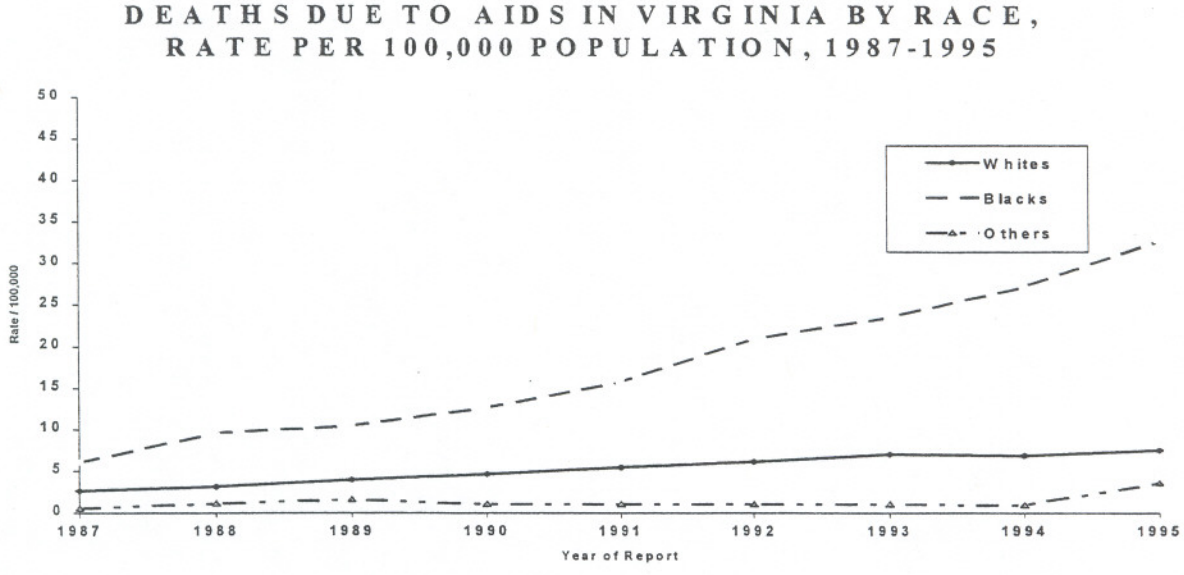


Figure 4

AIDS Cases by Gender

Males have accounted for 86% of AIDS reports received since reporting began, although the yearly proportion of reports in women has been increasing steadily. Only eight reports of AIDS in women were received prior to 1986, but during that year women accounted for 7% of reports and the proportion increased to 10% in 1990 and 18% in 1996 (Figure 5).

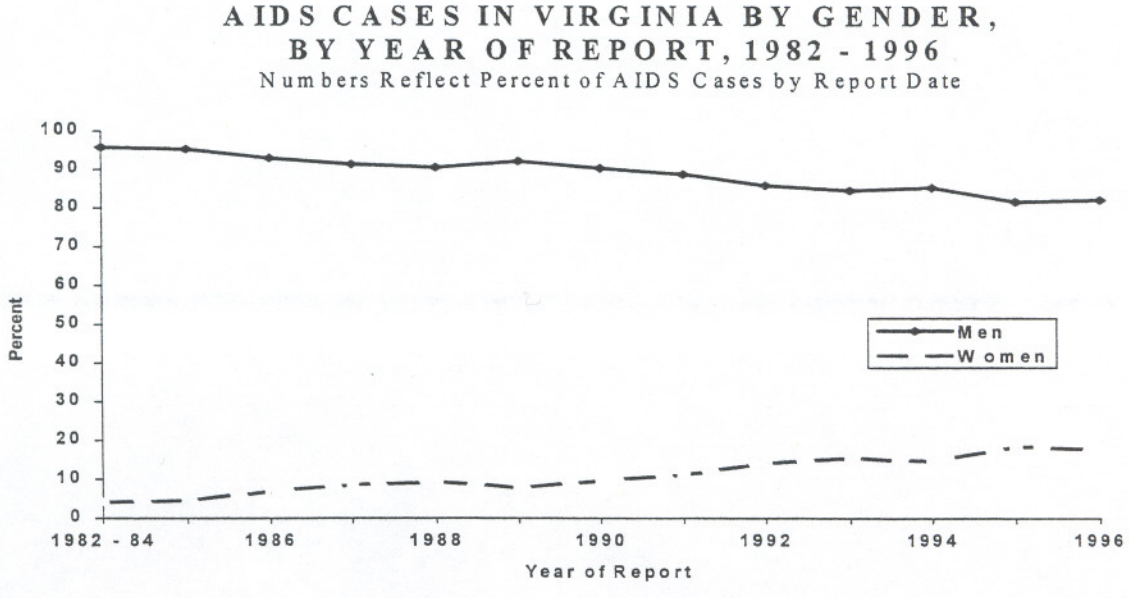


Figure 5

Since 1992, the number of reports of AIDS in women has more than doubled while the number of reports in men has increased only 57% (Figure 6).

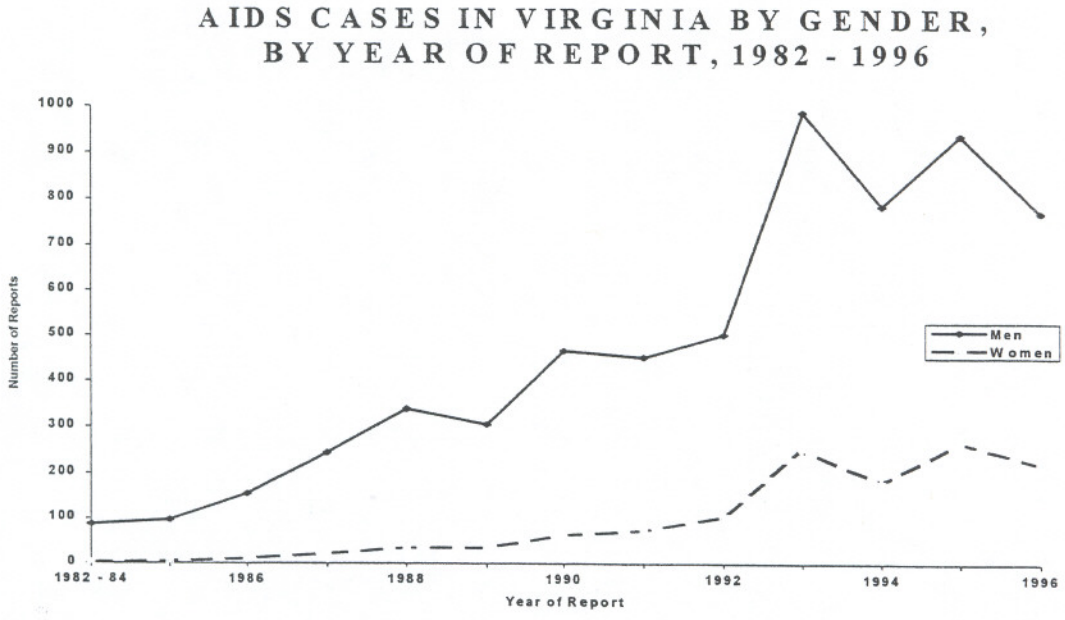


Figure 6

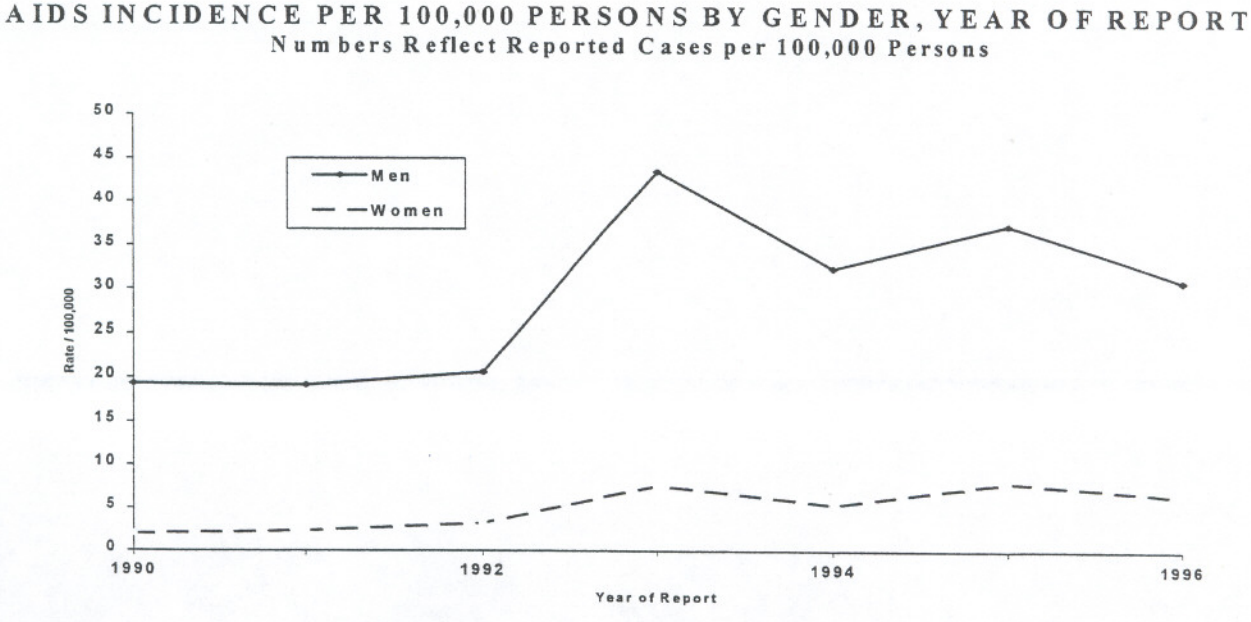


Figure 7

This disproportionate increase among women can also be seen in the changes in incidence rates. In 1990, there were 19.3 cases of AIDS per 100,000 males in Virginia, more than nine times the rate in women (2.0 cases per 100,000 women in Virginia) (Figure 7). In 1996 in Virginia, the annual rate in men had increased 60% to 30.9 per 100,000 males but the rate in women had jumped 225% to 6.5 per 100,000 women. The average age at which women were diagnosed with AIDS (34.3 years, range <1-84) was significantly less than the average age at which men were diagnosed (36.9 years, range = <1-87) ($p < 0.01$).

AIDS Cases by Race

Historically, AIDS was considered a disease of white males, but the racial distributions have gradually changed. During 1993, the year the AIDS case definition was expanded, the number of AIDS reports in non-Hispanic blacks (836 of 1634) exceeded the number in non-Hispanic whites (739/1634) for the first time. This increasing trend among African-Americans has continued. In 1996, 59.6% of AIDS reports were in non-Hispanic African-Americans (735/1233) (Figure 8).

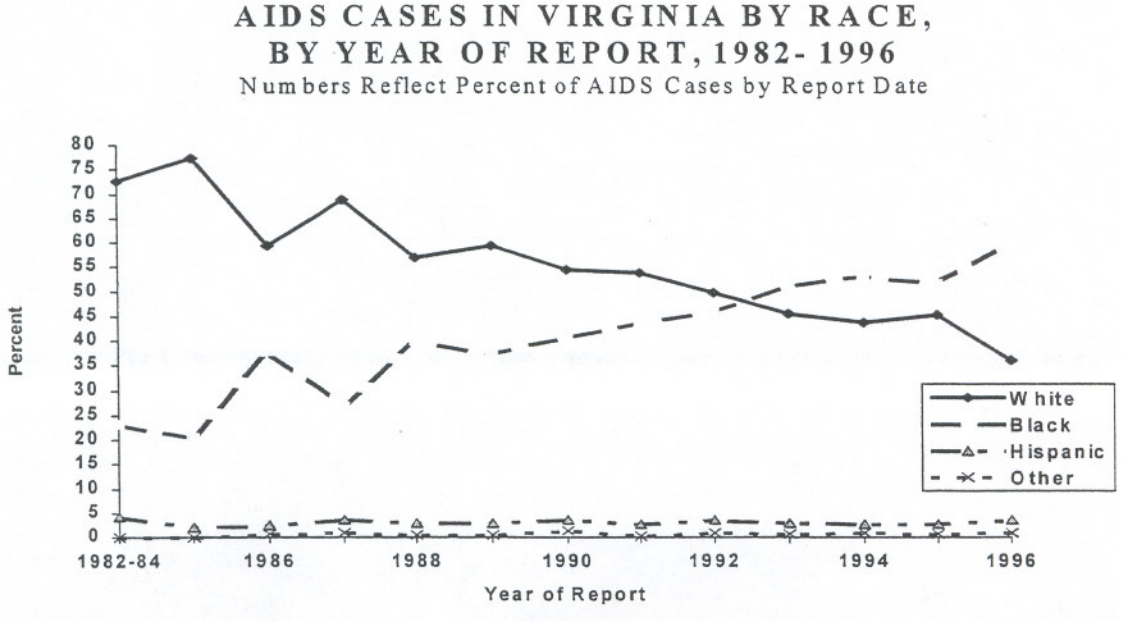


Figure 8

Although the number of reports of AIDS among non-Hispanic blacks has only recently become greater than the number of reports in non-Hispanic whites, it must be realized that blacks account for less than 20% of the Virginia population. Table 3 shows annual incidence data which indicate that the incidence rates for non-Hispanic African-Americans have consistently ranged from three to six times greater than the rates in non-Hispanic whites. In 1996, the annual rates in both non-Hispanic blacks and non-Hispanic whites decreased slightly from 1995 rates to 9.0 per 100,000 whites and 56.3 per 100,000 blacks, respectively (Figure 9). It is important to note that although the number of reports is relatively small, the incidence rate among the Hispanic population in Virginia has been consistently higher than the rate in the non-Hispanic white population, indicating a high risk of infection in that ethnic group (Table 3). Individuals in the other race category, races other than Caucasian and African-American, have continuously made up a small number of annual reports with incidence rates ranging from 1.1 to 5.3 per 100,000 persons of other races.

AIDS INCIDENCE PER 100,000 PERSONS BY RACE, YEAR OF REPORT

Numbers Reflect Reported Cases per 100,000 Persons

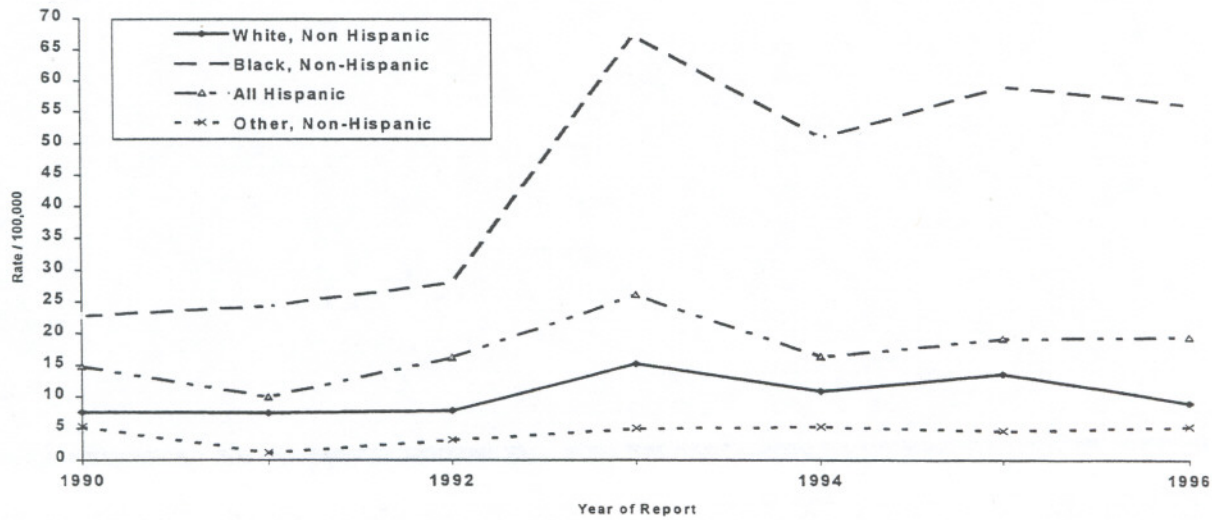


Figure 9

Table 3. Number of Reported AIDS Cases and Incidence Rates per Racial / Ethnic Group

Year of Report	White Non-Hispanic		Black Non-Hispanic		Hispanic		Other	
	Number of Reports	Annual Rate / 100,000	Number of Reports	Annual Rate / 100,000	Number of Reports	Annual Rate / 100,000	Number of Reports	Annual Rate / 100,000
1982-1990	1241	3.1 (9 year average)	753	7.9 (9 year average)	67	6.4 (9 year average)	16	1.4 (9 year average)
1991	355	7.5	289	24.4	17	10.0	2	1.1
1992	374	7.8	342	28.2	29	16.3	6	3.1
1993	739	15.3	836	67.4	49	26.1	10	5.0
1994	532	10.9	643	51.0	32	16.3	11	5.3
1995	667	13.6	760	59.3	40	19.2	10	4.6
1996	443	9.0	735	56.3	43	19.5	12	5.2
Total	4351	NA*	4358	NA*	277	NA*	67	NA*

*Not Applicable

If racial and ethnic groups are separated by sex, it is seen that female non-Hispanic blacks account for some of the increase seen in that racial group. Black females make up 70% of all AIDS reports in females and 10% of all AIDS reports received. In contrast, white females are only 26% of female reports and 4% of all reports. Among the male population, whites still outnumber blacks, accounting for 52% of all male reports and 44% of all AIDS reports, versus 45% and 38%, respectively, for non-Hispanic black reports.

When racial and ethnic groups are compared by age at AIDS diagnosis, a significant difference is seen ($p < 0.01$). Persons of other races (average age = 35.0 years) and Hispanics (34.9 years) are younger than non-Hispanic whites (37.2 years), with non-Hispanic blacks (36.0 years) falling mid-range.

AIDS Cases by Age Group

The average age at which persons are diagnosed with AIDS is 36.5 years of age. It follows, therefore, that persons 30-39 years of age are reported with AIDS more frequently than individuals in other age groups (Figure 10). Incidence rates for infection are also highest for this age group, ranging from 26.7 per 100,000 persons 30 to 39 years old in 1990 to 44.5 per 100,000 during 1996 (Figure 11). The age group reported next frequently is the 40 years and older grouping. Persons in this group have accounted for 33% of all AIDS case reports, yet the rates per population for this group are consistently lower than the rates for persons between 20 and 29 years, ranging from 8.4 per 100,000 persons 40 years of age and older in 1990 to 17.0 per 100,000 in 1996 (Figure 11). The 20 and 29 year old grouping makes up 19% of all AIDS reports but the percentage of cases reported in that group has generally decreased during the last ten years from a peak of 29% of reports during 1986 to 18% in 1996 (Figure 10). The incidence rates in the 20 to 29 year old group have risen from 14.0 per 100,000 persons 20 to 29 years old in 1990 to 22.6 per 100,000 in 1996, with a peak rate of 28.9 per 100,000 in 1993 (Figure 11).

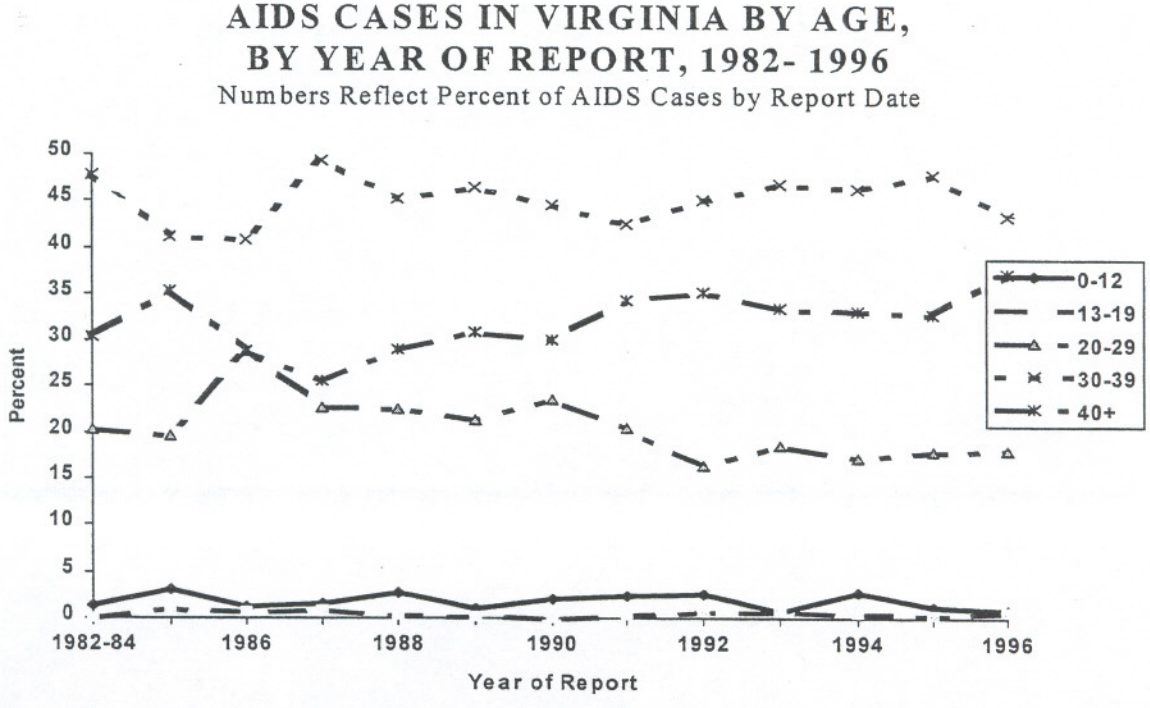


Figure 10

The age grouping with the fewest number of AIDS reports per year is the 13-19 year age group (<1%) (Figure 10). Children aged infant to 12 years have accounted for 2% of all AIDS reports but the trend shows a decline since a peak of 3% in 1985 (Figure 10).

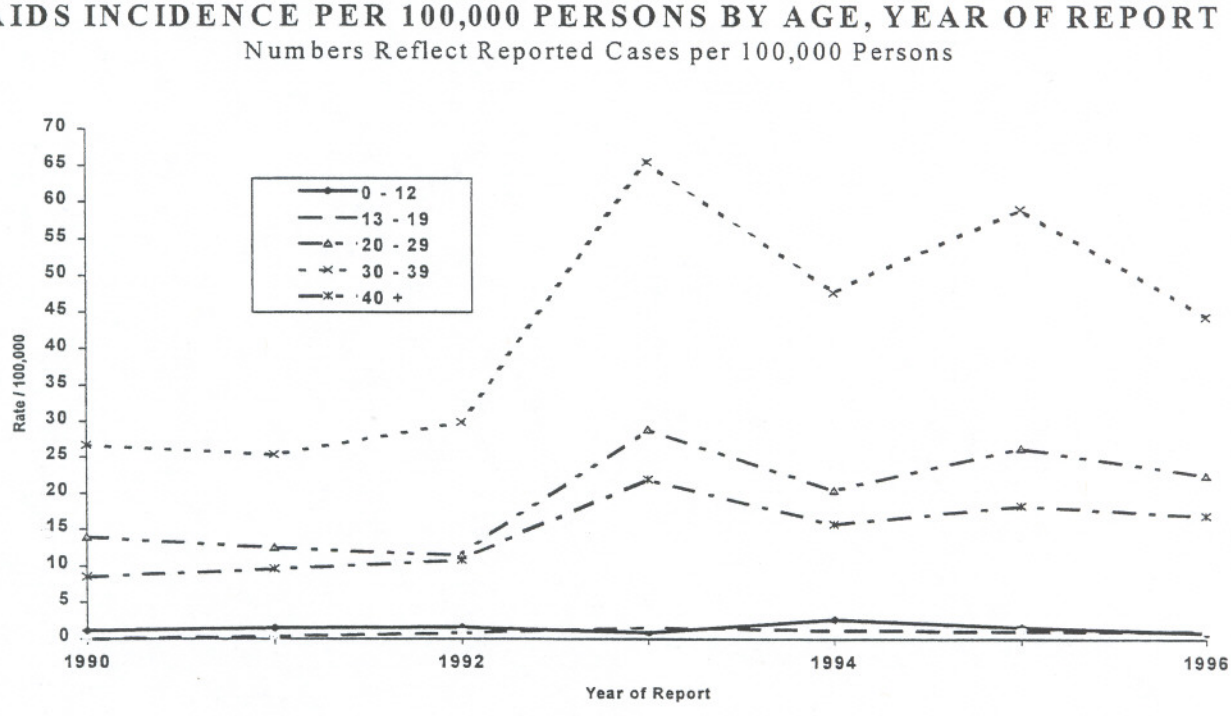


Figure 11

AIDS has a median incubation period of ten years, which means that half of all persons infected with HIV will develop AIDS within ten years of infection but half will not. This suggests that although adolescents between the ages of 13 and 19 years of age consistently make up the smallest age group of AIDS reports (<1% in 1996), a large percentage of persons diagnosed with AIDS between the ages of 20 and 29 years (224 cases in 1996) were probably infected with HIV while in their teens.

Persons Living with AIDS

As of December 31, 1996, there were 3,553 individuals living with AIDS in Virginia, a prevalence rate of 53.0 individuals per 100,000 population. This is 39% of all persons reported with AIDS in Virginia since 1982. Eighty-three percent of those living with AIDS are males (2,953/3,553) and 17% are females (600/3,553). Forty-nine percent of males are non-Hispanic blacks, 47% are non-Hispanic whites, 4% are Hispanics and <1% are of other races. Among females, 73% living with AIDS are non-Hispanic blacks, 22% are non-Hispanic whites, 4% are of Hispanic ethnicity and 1% are of other races. Children <12 years of age account for 2.1% of those persons living with AIDS in Virginia, adolescents between 13 and 19 years are <1%, persons 20 to 29 years of age make up 21%, those 30 to 39 years are 46% and persons over 40 years of age account for 31%.

Table 4. Persons Living with AIDS* in Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Male	Hispanic Male	Other Male	Total Male (%)	White Female	Black Female	Hispanic Female	Other Female	Total Female (%)	Total (%)
0-12	12	24	1	0	37	11	28	0	0	39	76 (2.1)
13-19	5	10	1	0	16	0	6	1	1	8	24 (0.6)
20-29	301	269	32	7	609	33	93	6	3	135	744 (20.9)
30-39	646	663	48	8	1365	59	188	13	1	261	1626 (45.8)
40+	426	466	23	11	926	28	122	5	2	157	1083 (30.5)
Total	1390	1432	105	26	2953 (83.1)	131	437	25	7	600 (16.9)	3553 (100)

*Living as of 12/31/96

The proportion of individuals reported yearly with AIDS that were alive as of December 31, 1996, ranges from 15% from 1982 (1 of 6 reported cases) to 73% from 1996 (889 of 1,233 reported cases) (Figure 12). Survival appears to be longer for children; 54% of all reported

children < 13 years of age were still alive as of December 31, 1996, compared to 39% of adolescents and adults. For children, 8% of those still alive were diagnosed in the 1980s, as opposed to only 4% of surviving adolescents and adults.

PERCENT SURVIVAL WITH AIDS, ADULT/ADOLESCENT VERSUS PEDIATRIC CASES BY YEAR OF REPORT

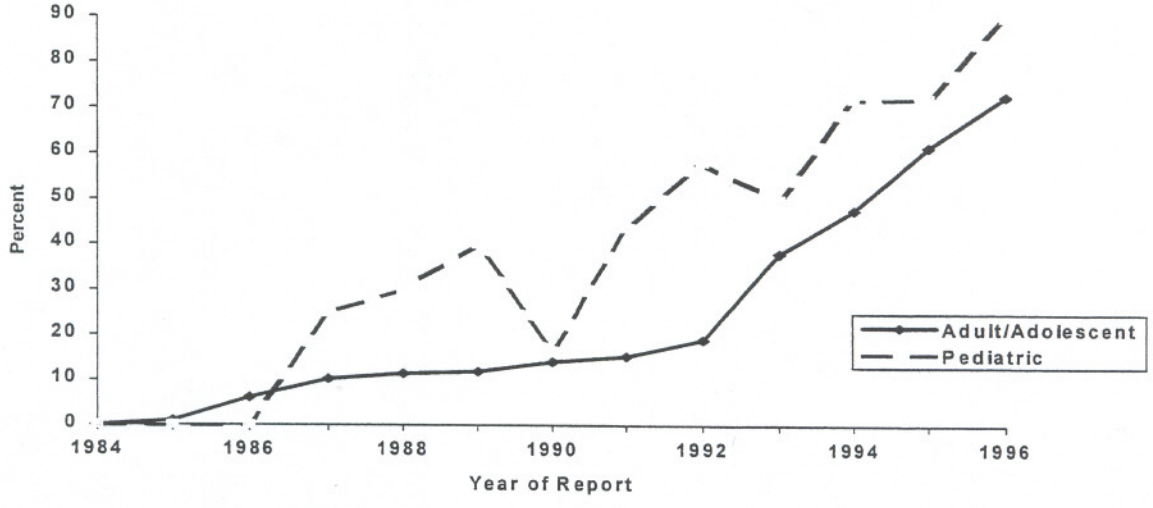


Figure 12

For individuals who have been reported with AIDS and have subsequently died (61% of all AIDS reports), the average length of time between diagnosis and death was 16.2 months, with a range of <1 to 138 months. There was no significant difference in the average survival time between males (16.2 months) and females (16.4 months), yet the range of times was much shorter for females, only 87 months. It was interesting to note that there was a significant difference in survival when examined by mode of transmission ($p<0.01$), although the importance of this is unclear. Men who reported both sex with men (MSM) and injecting drug use (IDU) as risk behaviors lived the longest, an average of 18.3 months (<1 - 101). Individuals reporting heterosexual activity with a partner who was either infected or at-risk for infection lived 16.7 months (<1 - 82), men reporting sex with men without drug use lived an average of 16.5 months (<1 - 138), those who became infected from injecting drug use lived an average of 15.4 months (<1 - 98), and persons with other modes of transmission lived the shortest period of time, 13.7 months (<1 - 112). With the new treatment regimens that have been implemented during 1996, it will be of interest to examine survival times in the future.

B. INCIDENCE OF HIV IN VIRGINIA

Infection with HIV has been a reportable condition in Virginia since July 1989. Virginia is one of 26 states that require reporting of HIV infections. Since reporting began, 9,230 reports of HIV infections have been received. As seen in Figure 13 and Table 5, the most reports received in any one year were received during 1991 (1655). Since that time the number of reports has generally declined. During 1996, 984 reports were recorded, the lowest number for any full year of reporting. If reports of HIV are examined by year of diagnosis, we see a much smoother curve that is not distorted by reporting delays, as seen with AIDS. This line also shows a declining trend (Figure 13).

As seen in Figure 14, the incidence rate for HIV infection has decreased by 44% between 1991 and 1996 (26.3 infections per 100,000 persons to 14.7 infections per 100,000, respectively).

HIV CASES IN VIRGINIA BY YEAR OF REPORT AND BY YEAR OF DIAGNOSIS, 1990- 1996

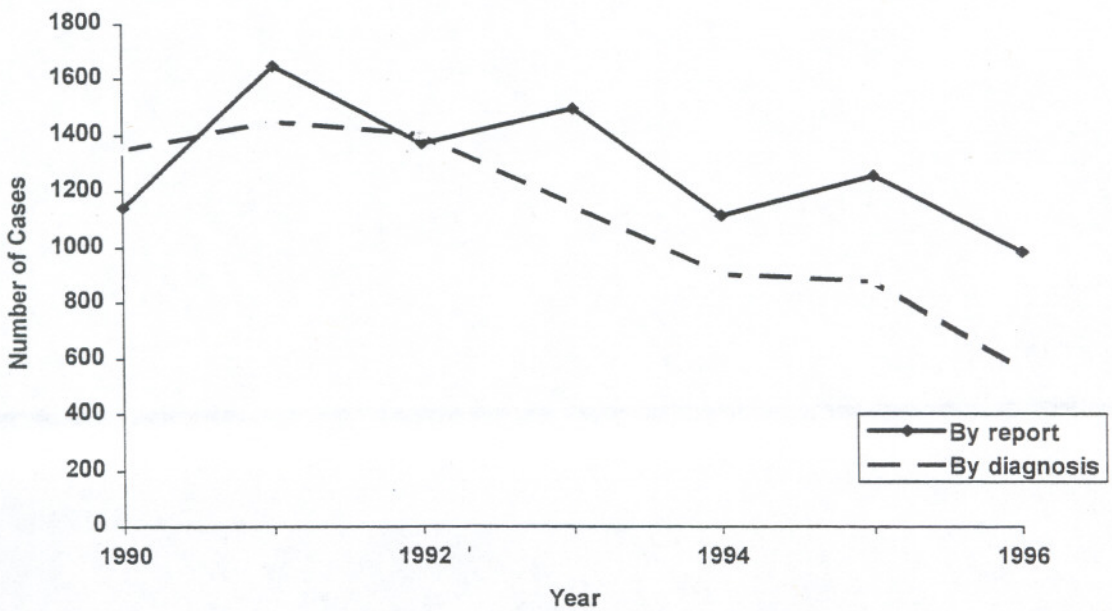


Figure 13

Table 5. Persons Reported with HIV Infection, by Race and Sex, Virginia

	Males					Females					
Year of Report	White Male	Black Male	Hispanic Male	Other Male	Total Male	White Female	Black Female	Hispanic Female	Other Female	Total Female	Total
1989 (6 mos)	87	80	9	1	177	6	15	1	1	26	200
1990	309	540	14	18	881	57	202	6	1	266	1147
1991	439	792	29	18	1278	88	278	9	2	377	1655
1992	359	643	18	7	1027	76	262	10	2	350	1377
1993	437	635	26	12	1110	83	292	6	6	387	1497
1994	284	515	23	13	835	50	218	7	3	278	1113
1995	331	549	37	11	928	62	256	8	3	329	1257
1996	201	471	16	6	694	58	218	10	4	290	984
Total	2447	4225	172	86	6930 (75.1)	480	1741	57	22	2300 (24.9)	9230 (100)

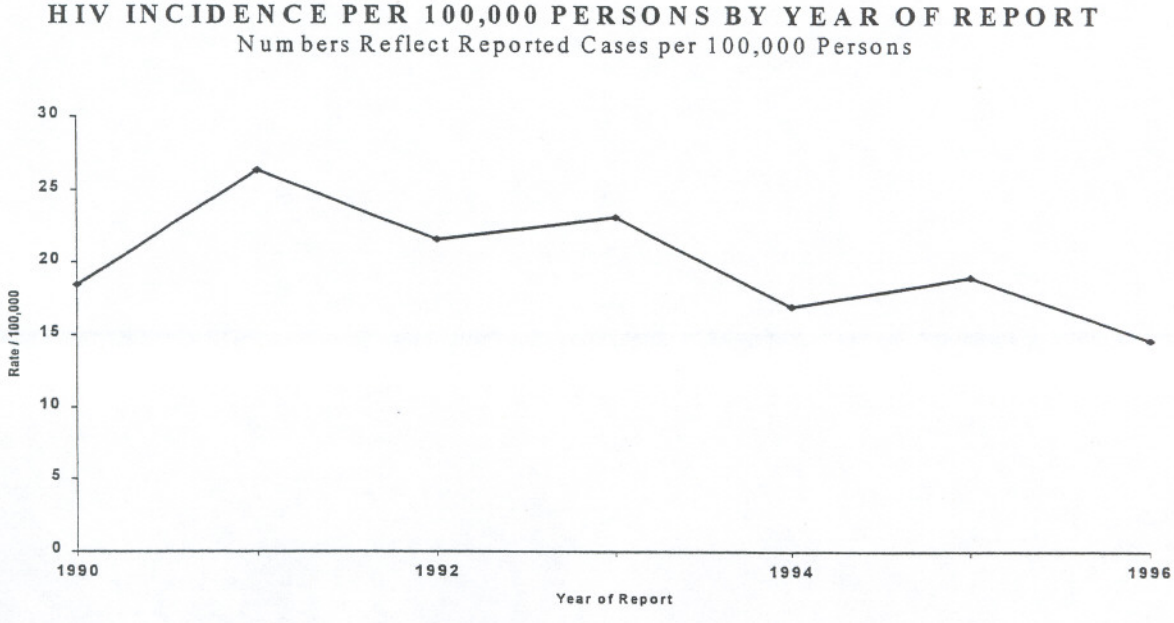


Figure 14

HIV Infections by Gender

Males make up the majority of reports of HIV infection in Virginia, but the proportion of reports attributed to females has always been greater than with AIDS and continues to increase (Figure 15). In 1990, reports in females made up 23% of the HIV reports; in 1996, this figure had risen to 30%.

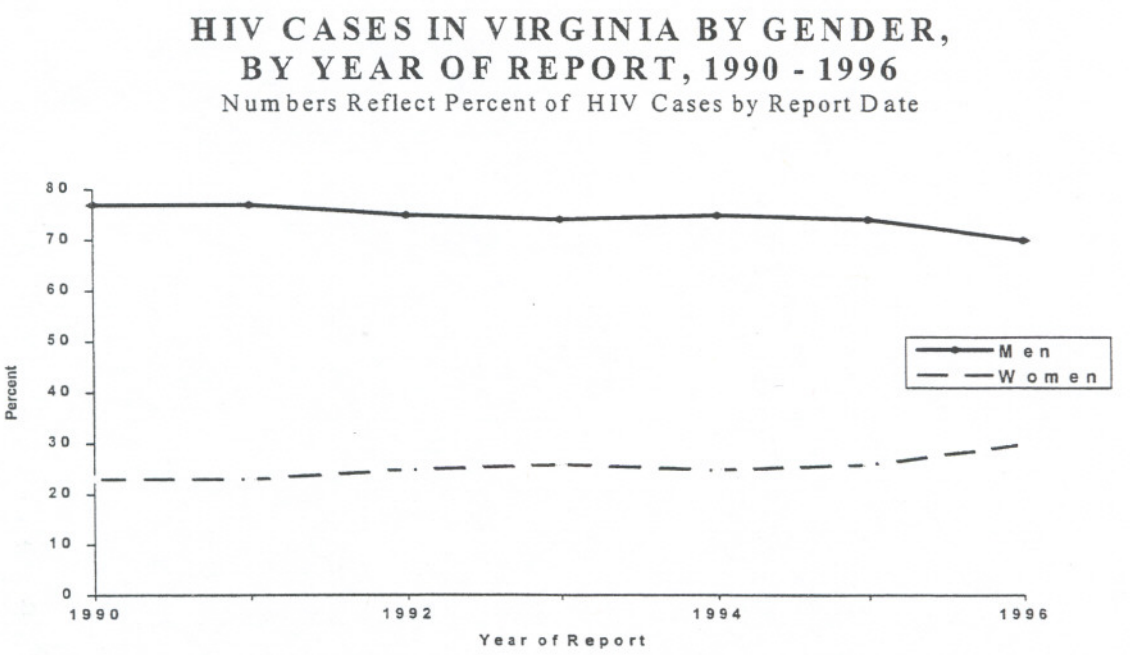


Figure 15

As seen in Figure 16, this change in distribution is not the result of a continuous increase in the number of yearly reports in women but rather due to a decreasing trend in the number of reports of HIV in men, dropping from a peak of 1,278 in 1991 to 694 in 1996. Although the number of reports in women increased in the early 1990s, the line has remained relatively stable (266 reports in 1990, 290 in 1996).

HIV CASES IN VIRGINIA BY GENDER,
BY YEAR OF REPORT , 1990- 1996

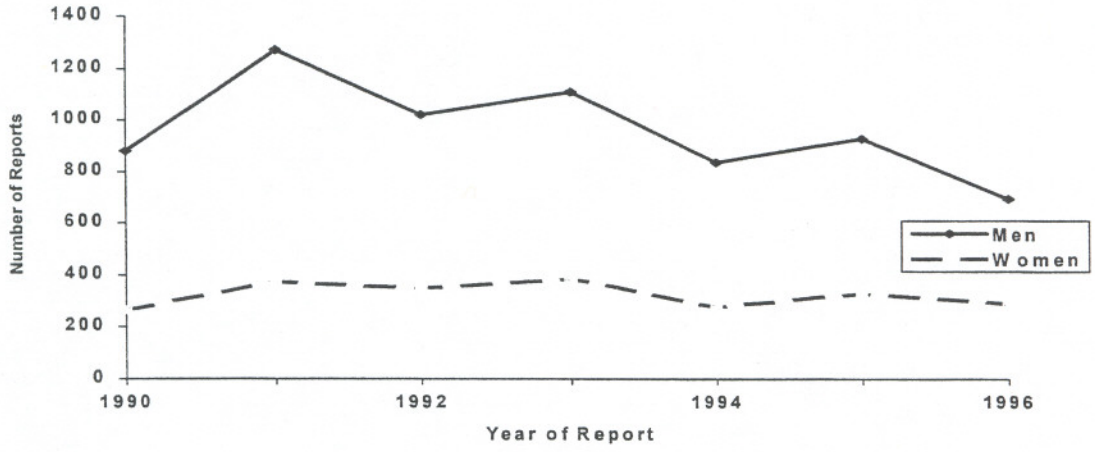


Figure 16

These same trends are seen in the incidence rates for males and females (Figure 17). The 1996 rate for HIV infection in men (21.1 per 100,000 males) shows a decrease of 49% from the peak rate seen in 1991 (41.5 per 100,000 males). The rate in women also decreased between 1991 and 1996 (11.8 per 100,000 females and 8.5 per 100,000, respectively) but the years in between were erratic. It will take several more years of data collection to determine if a clear declining trend can be claimed.

HIV INCIDENCE PER 100,000 PERSONS BY GENDER, YEAR OF REPORT
Numbers Reflect Reported Cases per 100,000 Persons

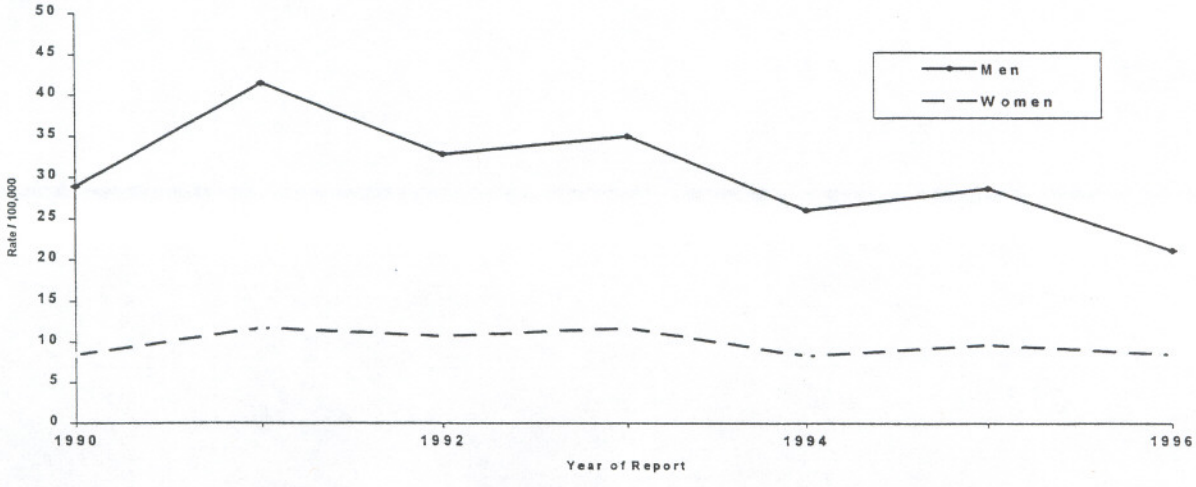


Figure 17

The age at which males and females are identified as being infected with HIV is significantly different ($p < 0.01$). In Virginia, the average age at which females have been diagnosed with HIV is 31.2 years (range = <1-84 years) versus an age of 34.1 years for men (range of <1-97 years). As with AIDS, the explanation for this age difference is unclear. It is possible that the age at which females exhibit risk behaviors associated with HIV infection is younger than that for men or that both age groups become infected at similar ages but women are more likely to seek medical care for such reasons as family planning and are subsequently tested at a younger age.

HIV Infections by Race

Non-Hispanic blacks have accounted for 65% of all HIV reports received. This percentage has ranged from a low of 62% in 1993 to a high of 70% in 1996 (Figure 18). The actual number of annual reports of HIV in non-Hispanic blacks has shown a continuing decrease of 36% between 1991 (the peak year for reports in blacks) and 1996 (1070 to 689 reports, respectively), but the continued increase in proportion of reports is due to a greater decline in the number of reports among non-Hispanic whites over the same time period (51% decrease, from 527 to 259 reports) (Table 5). Annual reports of HIV in Hispanics have been few in number, accounting for 2.5% of all HIV reports, but increased yearly until 1995. Persons of other races with HIV are reported the least frequently and no clear trend can be seen.

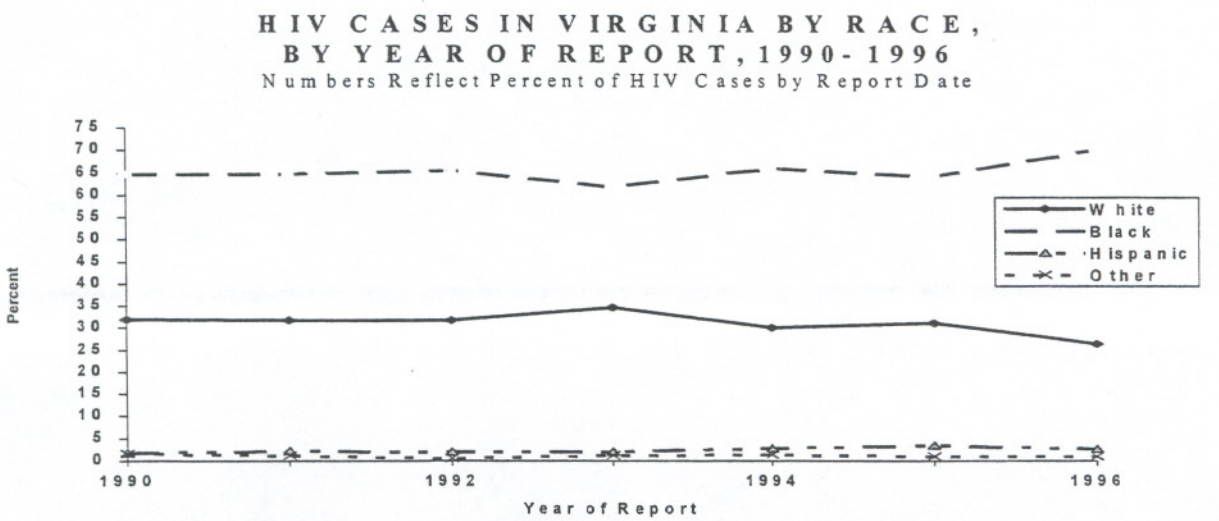


Figure 18

Sex breakdowns within racial/ethnic groups reveal that black males have accounted for 46% of all HIV reports, white males 27% and the numbers in both groups are decreasing yearly. Black females have accounted for 19% of all HIV infections versus 5% for non-Hispanic white females and, although the annual number of reports fluctuates, there has been no significantly change over the years.

When HIV infections in different racial and ethnic groups are examined as rates, it is seen that the annual rate of infection among non-Hispanic blacks remains several times greater than the rate in Hispanics, non-Hispanic whites and persons of other races, yet a distinctly decreasing trend is seen (Figure 19). The rate has dropped by 42% from a peak of 90.3 per 100,000 non-Hispanic blacks in 1991 to 52.8 per 100,000 in 1996. Similarly, the rate among non-Hispanic whites has declined by 53% from a peak of 11.1 per 100,000 whites in 1991 to 5.2 per 100,000 in 1996. The rate of HIV infection among persons of other races has also declined from 11.2 per 100,000 persons of other races in 1991 to 4.3 per 100,000 in 1996. The trend in rates among Hispanics is harder to characterize. Although it has fluctuated from a high of 22.4 per 100,000 Hispanics in 1991 to 11.8 per 100,000 in 1996, no clear downward trend is visible.

HIV INCIDENCE PER 100,000 PERSONS BY RACE, YEAR OF REPORT

Numbers Reflect Reported Cases per 100,000 Persons

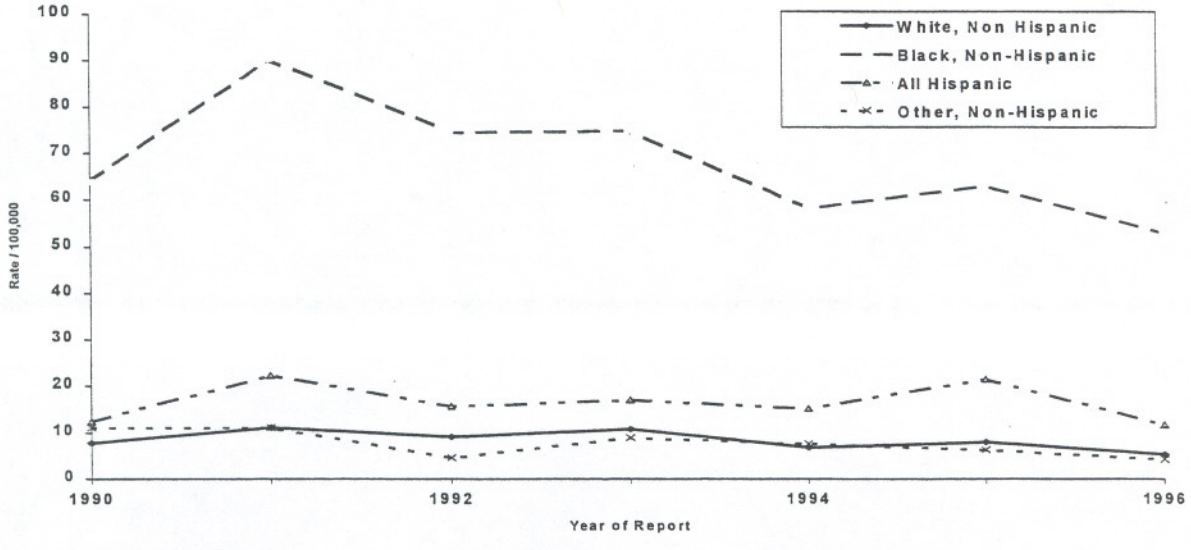


Figure 19

HIV Infections by Age Group

The average age at which individuals are identified as infected with HIV is 33.4 years, three years less than the average age for AIDS diagnosis (36.5 years). As with AIDS, the average age for an initial HIV-positive test is significantly lower for women than men (31.2 versus 34.1, respectively, $p < 0.001$). Individuals between 30 and 39 years of age are the most frequently reported age group, accounting for 40% of all reports; this is similar to AIDS in which this age group constitutes 46% of all reports received. In contrast to AIDS, though, persons in the 20 to 29 year age bracket are the second most frequently reported group (36% of all HIV infection reports versus 19% of AIDS reports) and it is probable that a number of the persons in this age group were actually infected while in their teens. Persons older than 39 years of age make up 21% of all reports, adolescents (13-19 years of age) 3%, and children (< 13 years) 1%. Looking at Figure 20 it appears that the number of reports in persons between 20 and 39 years of age has generally decreased since 1991, whereas annual totals for the other age groups have remained relatively stable. If persons less than 25 years of age are compared to those 25 and older, it is seen that the proportion of these reports has fluctuated from 19% of the total in 1990 down to 15% in 1995 and back up to 20% in 1996. It will be important to see if the increase continues.

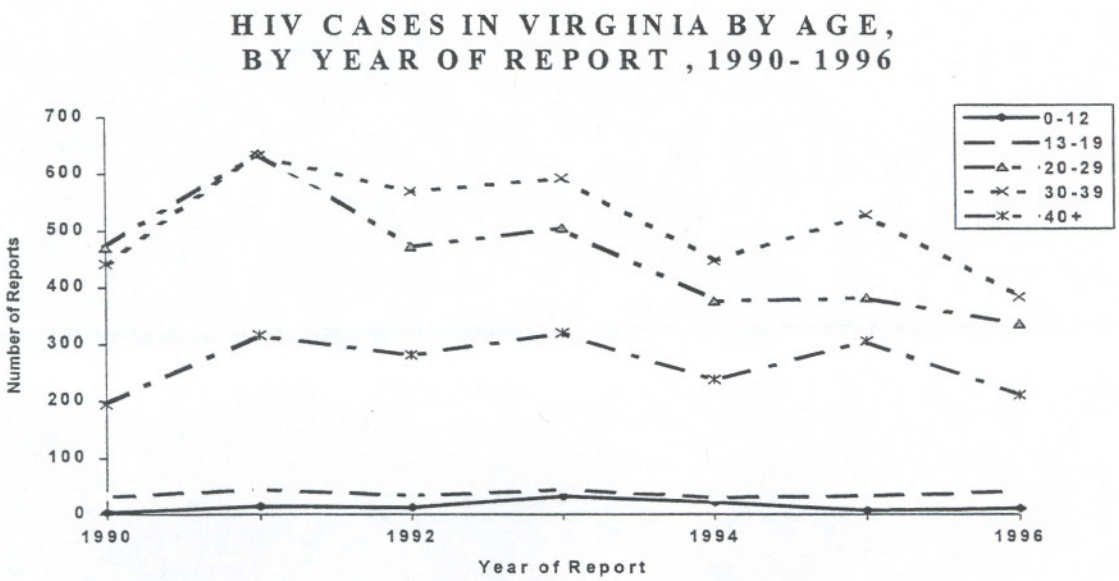


Figure 20

When annual incidence rates of infection are examined, it is seen that the rates for the 20-29 and 30-39 year age groups have been very similar since reporting began (Figure 21) and have generally decreased since 1991. For persons 20 to 29 years and 30 to 39 years, the rates have decreased by more than 40% from peak rates of 58.7 per 100,000 persons 20-29 years old and 57.2 per 100,000 persons 30-39 years old in 1991 to 34.0 per 100,000 and 32.0 per 100,000, respectively, in 1996. As with the annual number of reports, no decreasing trend in incidence rates can be seen with other age groups.

HIV INCIDENCE PER 100,000 PERSONS BY AGE, YEAR OF REPORT

Numbers Reflect Reported Cases per 100,000 Persons

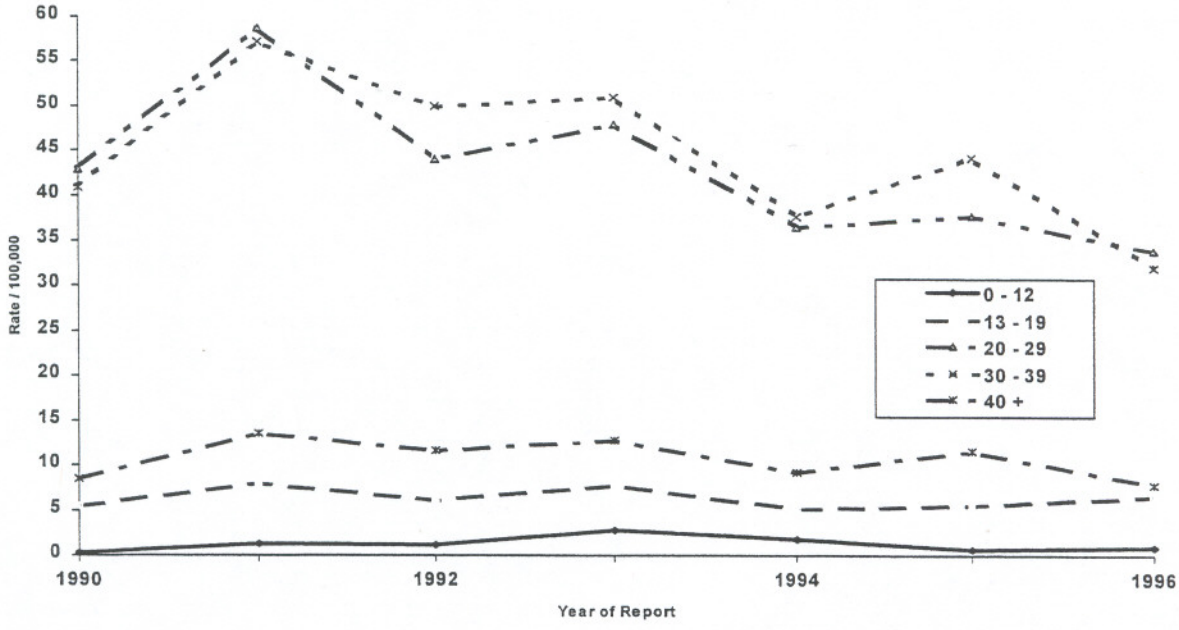


Figure 21

Children under the age of 13 years account for the fewest reports of HIV infection. Since reaching a peak of 32 reports in 1993, the number of annual reports has decreased to 10 in 1996. The use of zidovudine, a treatment for HIV-positive pregnant women for the prevention of HIV transmission during pregnancy, was initially recommended in 1995. It is hoped that with this treatment, the number of reports of HIV infection in children will continue to decline.

Persons Living with HIV

As of December 31, 1996, there were 6,232 persons living with HIV infection and not diagnosed with AIDS in Virginia. This is a statewide prevalence rate of 93.0 persons with HIV per 100,000 population. This represents 68% of all persons reported with HIV infection since reporting began. Fifty-six percent of individuals reported as HIV positive during 1989 to 1992 have not developed AIDS. That percentage increases to 92% for those identified as HIV infected during 1996. Seventy-three percent of those living with HIV are males, 27% are females.

Racially, non-Hispanic blacks account for 66% of persons living with HIV and within this racial group, females make up 31%. The proportion of females increases in younger age groups and between infancy and 19 years of age, non-Hispanic black females account for greater than 52% of all non-Hispanic blacks living with HIV infection. Non-Hispanic white females account for 18% of non-Hispanic whites living with HIV infection and again percentages are greater in the younger age groupings: 50% of white adolescents, but less than 50% (31%) in children <13, due to the number of white male hemophiliacs in this age-racial group. Persons claiming an Hispanic ethnicity are 3% of those living with HIV, and individuals of other races are 1%.

The age distribution of persons living with HIV infection follows closely the distribution of all reports: 39% are between 30 and 39 years, 38% are 20-29 years old, 18% are over 40 years of age, 4% are adolescents, and <1% are children under 13 years of age.

When persons living with HIV are broken out by the identified risk associated with their infection, it is seen that the largest cohort is made up of men who reported having sex with other men (33%). The second largest group are persons reporting intravenous drug use (19%), followed by individuals reporting heterosexual activity with a partner who has either been diagnosed as HIV-positive or is at risk for infection (17%). Persons for whom no risk has been identified account for 16%. The risk factors of multi-heterosexual partners, receipt of blood products as an adult or pediatric exposures are associated with 10%, 2% and 1%, respectively, of those living with HIV.

Table 6. Persons Living with HIV* in Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Male	Black Male	Hispanic Male	Other Male	Total Males (%)	White Female	Black Female	Hispanic Female	Other Female	Total Females (%)	Total (%)
0-12	11	16	1	0	28	5	16	1	0	22	50 (0.8)
13-19	32	71	1	0	104	32	78	3	2	115	219 (3.5)
20-29	619	1001	48	27	1695	153	514	22	9	698	2393 (37.4)
30-39	607	1125	47	31	1810	116	495	11	7	629	2439 (39.1)
40+	285	605	20	14	924	44	161	2	0	207	1131 (18.1)
Total	1554	2818	117	72	4561 (73.3)	350	1264	39	18	1671 (26.7)	6232

*Living as of 12/31/96

C. MODES OF TRANSMISSION

Prevention of HIV infection is based upon interrupting the transmission of HIV from one person to another by preventing exposure to body fluids from an infected host. Prevention activities initiated early in the epidemic have essentially eliminated the risk associated with the nation's blood supply. Transmission of the virus currently is dependent upon high-risk behaviors including unprotected sexual encounters and/or sharing of blood-contaminated needles with infected persons. When individuals are tested for HIV/AIDS, information regarding risk factors for infection is gathered in an attempt to determine how the virus may have been transmitted. At-risk behaviors discussed in this report are defined as follows[2]:

- Men having sex with other men (MSM), whether homosexual or bisexual;
- Injecting drug use (IDU);
- Heterosexual contact, defined as heterosexual activity with an HIV-infected person or with a person at risk for HIV infection (e.g., a person who injects drugs);
- Exposure to blood products as an adult, whether as a hemophiliac receiving coagulation factor or through the transfusion of blood or blood products, or tissue/organ transplantation occurring primarily prior to March 1985. Since March 1985, cases in which this method of transmission is reported are investigated thoroughly to confirm the blood/blood product/organ as the source of the infection.
- Multi-heterosexual contact, defined as HIV cases who have no other identified risk factors but do report two or more heterosexual partners with undocumented risk. This reported behavior is not recorded by CDC for AIDS cases due to insufficient documentation. Rather, AIDS cases who report multiple heterosexual contacts are reported as "no identified risk." The VDH began collecting this information for AIDS cases during 1996 so trends in the prevalence of this behavior will be monitored in the future.
- No identified risk (NIR) is reported when no at-risk behavior has been identified.
- Pediatric exposure defined as perinatal infection or receipt of blood products due to either hemophilia or transfusion while < 13 years of age.

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2 Virginia Department of Health, Division of STD/AIDS, 1996

Table 7 compares the distribution of transmission modes between individuals diagnosed with AIDS and persons recently identified as infected with HIV. Because of the long incubation period between infection with HIV and onset of AIDS, persons diagnosed with AIDS offer an historical perspective on viral transmission while persons newly identified as HIV-positive give a more current picture of at-risk behaviors. Since AIDS reporting began in 1983, men who have reported having sex with men (MSM), whether homosexual or bisexual, have accounted for the largest number of AIDS cases, although other modes of transmission are currently increasing in frequency while MSM is dropping (Figure 22). The proportion of AIDS cases reporting MSM behavior has decreased by 41% from 76% of all reports in 1983 (and 69% of all reports received in the 1980s) to 45% in 1996. The percentage of persons reported as HIV-positive since 1989 with a MSM mode of transmission has always been less than the percentage of those reported with AIDS and has decreased from 40% in 1989 to 34% in 1996.

AIDS CASES BY MODE OF TRANSMISSION, BY YEAR OF REPORT, 1982 - 1996

Numbers Reflect Percent of AIDS Cases by Report Date

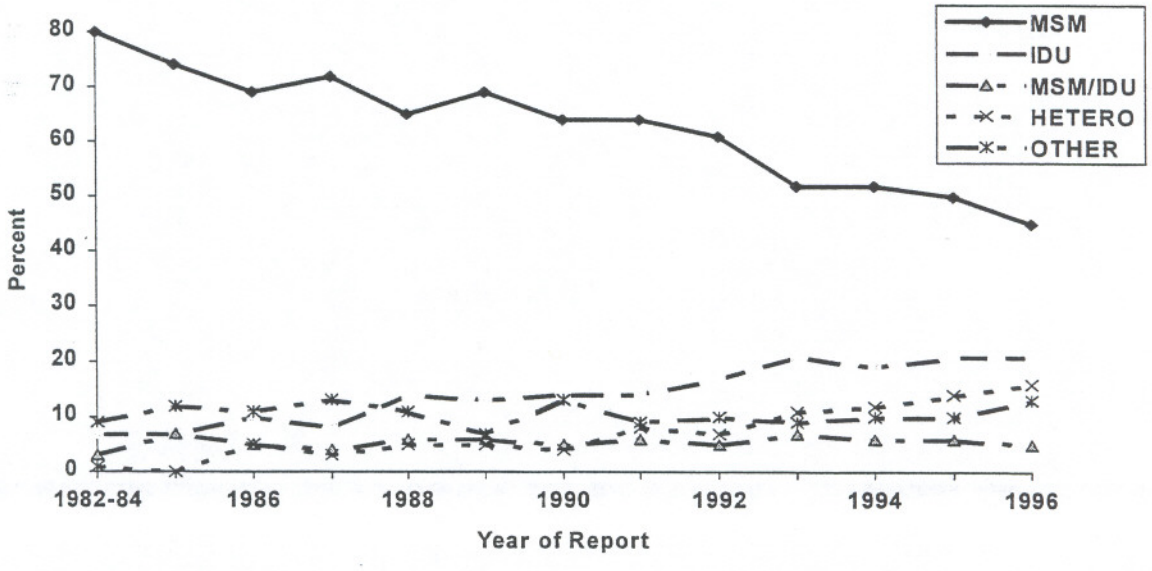


Figure 22

This decrease in the proportion of reports with a MSM mode is due in part to a continuous decrease since 1993 in the number of annual reports received with MSM as the assigned risk (857 reports in 1993, 554 in 1996) and to an increase in reports of other transmission modes. Some of the increase in other modes reported for AIDS since 1993 is likely the result of the change in the case definition that was implemented that year. The expanded AIDS case definition was designed to include persons with different pictures of illness, possibly related to factors associated with the mode of transmission responsible for infection.

Other modes of transmission showing the greatest changes over time include IDU among persons with AIDS, heterosexual activity with a person known to be at risk, and receipt of blood products. IDU accounted for less than 10% of cases of AIDS prior to 1988 but was reported for over 20% of 1996 reports, an increase of more than 100% (Figure 22). The percentage of HIV reports listing this behavior has not shown any significant changes since 1990 (Figure 23) (the lower percentage seen in 1996 is probably due to pending investigations and cannot be clearly interpreted as a decrease).

HIV CASES BY MODE OF TRANSMISSION BY YEAR OF REPORT, 1990 - 1996

Numbers Reflect Percent of HIV Cases by Report Date

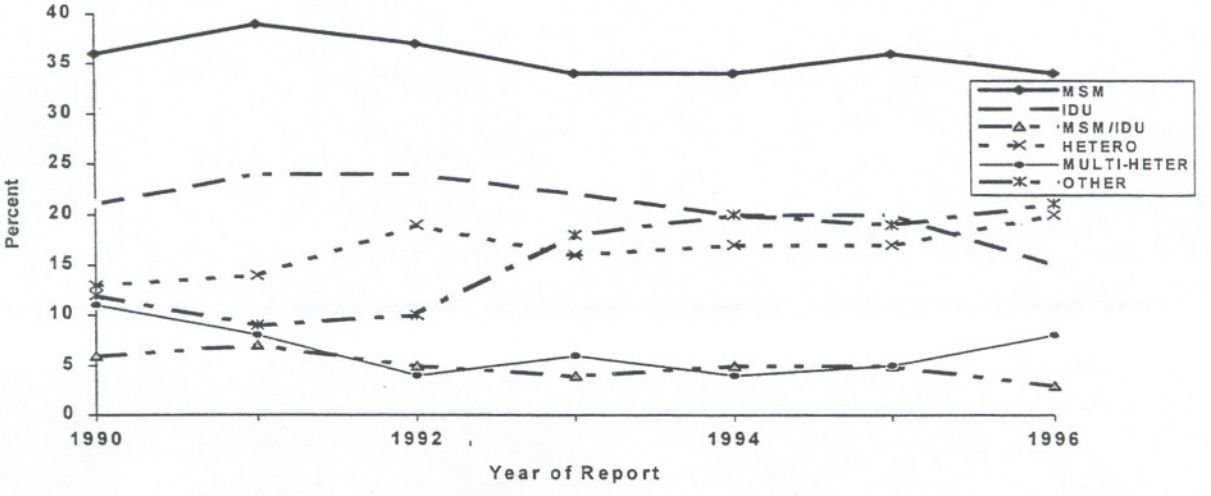


Figure 23

The number of persons reporting heterosexual activity with someone who is either infected with HIV or is at risk for infection has increased the most for both HIV-positive persons and cases of AIDS. Prior to 1990, this risk was listed for less than 5% of AIDS cases, in 1996 this figure had more than tripled to 16%. Heterosexual contact with a person of known risk was reported for 19% of HIV infection reports during 1996, an increase of 48% over 1990 reports.

Table 7. Modes of Transmission Among HIV/AIDS Cases

Transmission Mode	1990 (%)	1991 (%)	1992 (%)	1993 (%)	1994 (%)	1995 (%)	1996 (%)
MSM-HIV	36.4	38.5	37.3	34.1	34.0	35.6	33.5
MSM-AIDS	64.2	63.6	60.8	52.5	52.5	49.8	44.9
IDU-HIV	21.3	23.6	24.3	22.2	20.1	19.6	14.6
IDU-AIDS	13.7	14.0	17.3	21.1	19.3	20.6	20.7
Heterosexual-HIV	13.3	14.0	18.9	15.8	16.7	16.5	19.7
Heterosexual-AIDS	4.0	7.6	6.9	10.9	12.3	14.2	16.1
Blood Product HIV	1.7	1.9	1.7	4.1	1.4	0.6	0.5
Blood Product AIDS	5.1	3.6	3.3	3.9	1.5	1.9	1.8
Multi-Heterosex HIV	11.1	7.9	4.3	6.2	4.1	4.7	7.8
Multi-Heterosex AIDS	NA	NA	NA	NA	NA	NA	NA
NIR-HIV	10.3	6.5	7.5	11.5	17.0	17.4	19.5
NIR-AIDS	6.3	3.3	4.4	4.4	5.4	6.6	10.1
Pediatric -HIV	0.3	0.8	0.9	2.1	1.9	0.6	1.0
Pediatric- AIDS	1.7	2.3	2.5	0.6	2.6	1.2	0.9

Persons who contracted HIV through the receipt of a blood product accounted for over 5% of AIDS cases in 1990 and before. Since that time, there has been a 65% drop in the frequency of

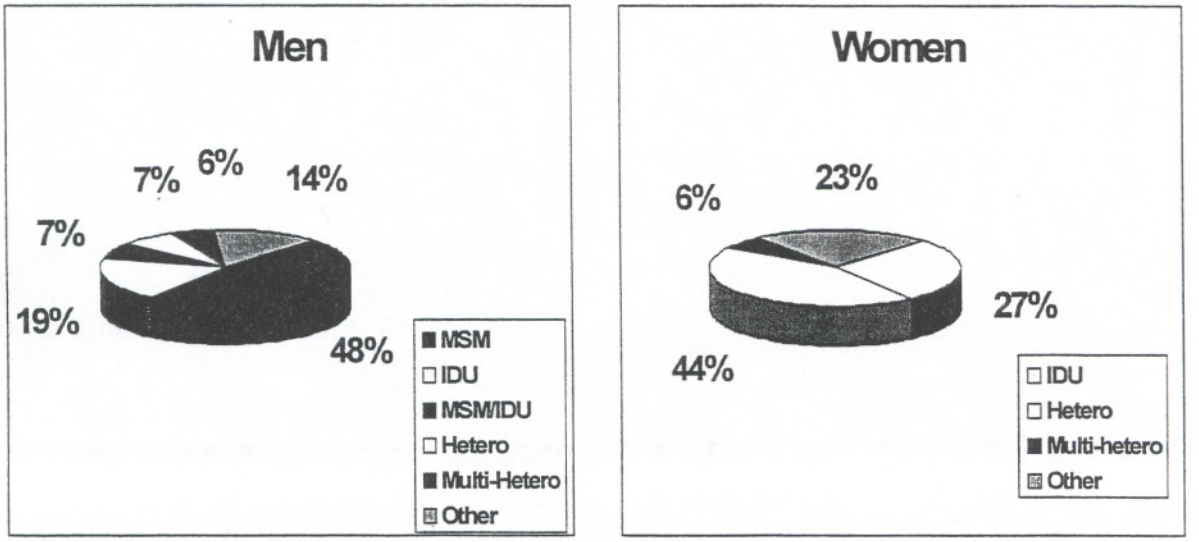
reports and less than 2% of cases reported in 1996 had that associated risk. Similarly, HIV cases reported with this risk decreased from less than 2% of reports in 1990 to less than 1% in 1996.

Mode of Transmission by Gender and Race

When mode of transmission is examined by gender and race, distinct differences are seen. For females, there has been very little change in distribution of HIV transmission mode over time. Forty-four percent of HIV infection reports in females have an identified risk of heterosexual activity with an at-risk partner (47% of non-Hispanic whites, 43% of non-Hispanic blacks, and 49% of Hispanic females) (Figure 24). An additional 27% of females reported with HIV infection arere injecting drug users, 27% for white and black non-Hispanics, and 26% for Hispanic females. Multi-heterosexual activity is considered to be the risk in 6% of all females, and ranges from a high of 10% in black non-Hispanic females to 4% in Hispanic females, with non-Hispanic whites at 7%.

MODES OF HIV TRANSMISSION IN VIRGINIA BY GENDER

Numbers Reflect Percent of All Known HIV Cases for Each Gender



Rounding error may prevent percentages from equaling 100%

Figure 24

For males, since HIV reporting began, MSM activity has been the most commonly reported risk (48% of all reports) with IDU ranked second (19%) (Figure 24). Distinct differences in frequency

are seen, though, when males are separated into racial/ethnic groups. Within the non-Hispanic white male group, MSM behavior has consistently been the risk for over 62% of all HIV reports (Figure 25). This is compared to an average of 39% of reports in non-Hispanic black males and 32% of Hispanic males (Figure 26 & 27). Intravenous drug use, the stated risk factor for 8% of reports of HIV infection in white males, has been reported in 25% and 23% of reports in non-Hispanic black and Hispanic males, respectively. Heterosexual activity, the risk identified in over 44% of HIV-positive reports in females, accounts for only 3% in non-Hispanic white males, 9% in non-Hispanic black males and 15% in Hispanic males.

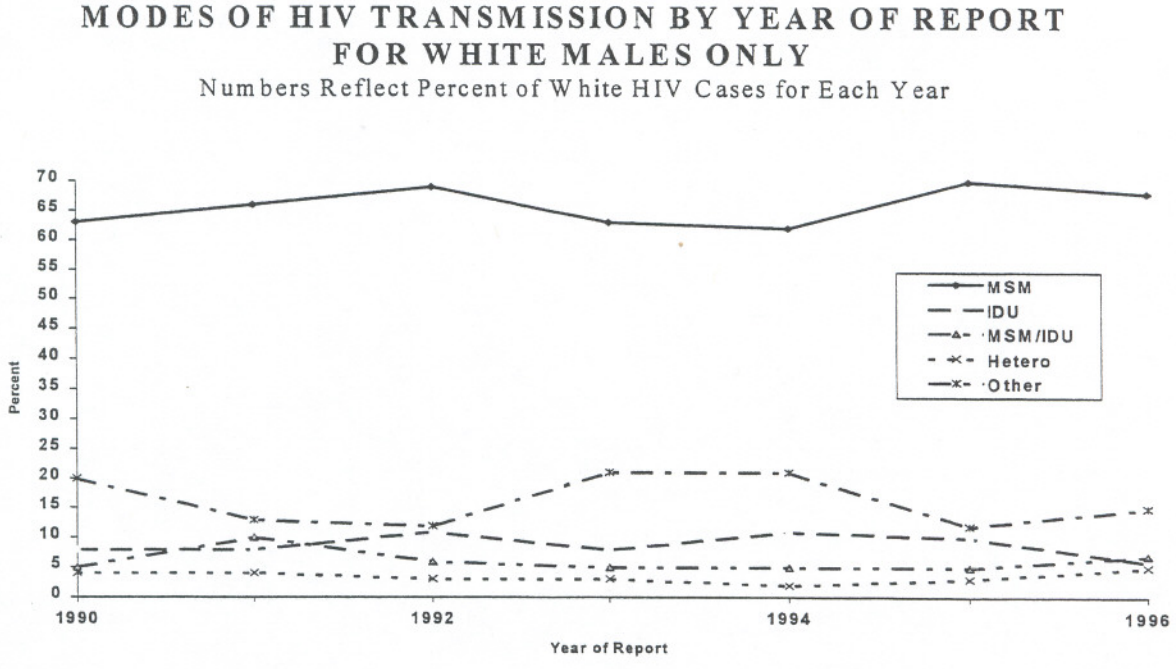


Figure 25

Although, the white male HIV-positive population continues to be primarily homosexual or bisexual, no clear distinctions can be made for either non-Hispanic blacks or Hispanic groups. For both of these populations, MSM, IDU and heterosexual encounters with individuals at risk are all significant mechanisms of virus transfer among these populations.

MODES OF HIV TRANSMISSION BY YEAR OF REPORT FOR BLACK MALES ONLY

Numbers Reflect Percent of Black HIV Cases for Each Year

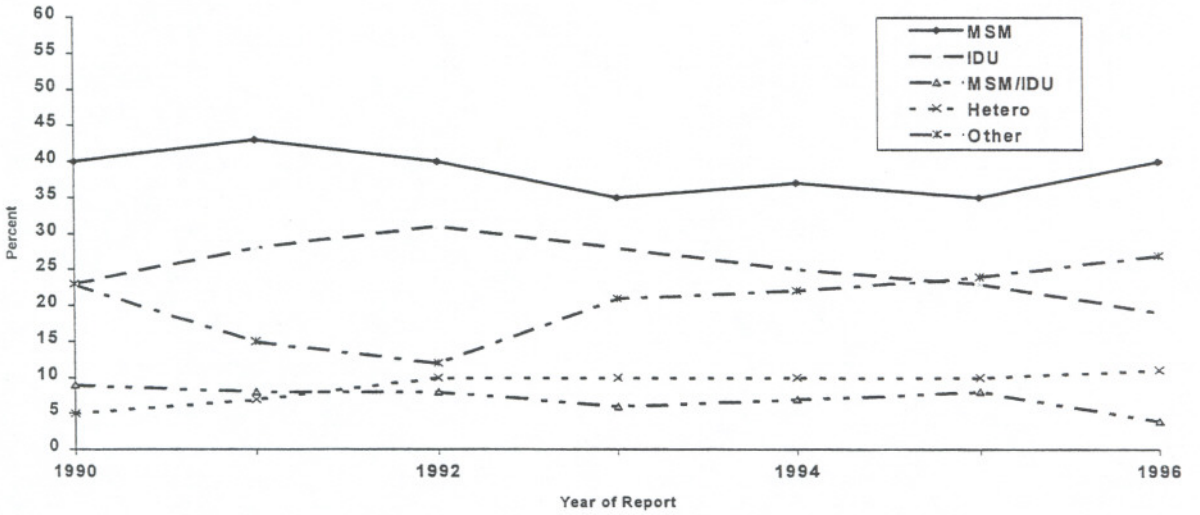


Figure 26

MODES OF HIV TRANSMISSION BY YEAR OF REPORT FOR HISPANIC MALES ONLY

Numbers Reflect Percent of Hispanic HIV Cases for Each Year

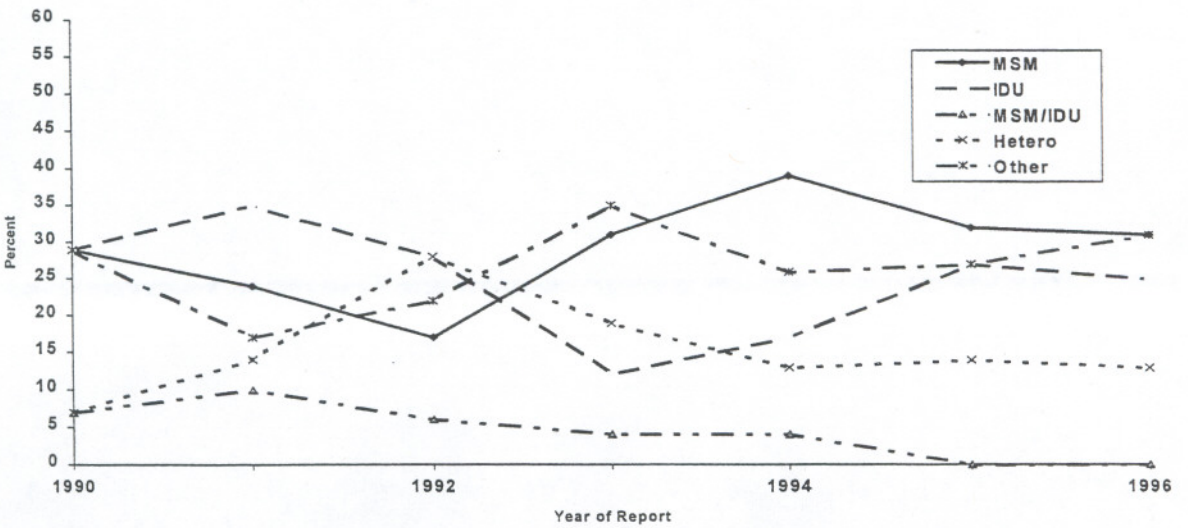


Figure 27

Mode of Transmission by Age Group

Differences in the distribution of modes of transmission can also be seen among different age groups. When AIDS cases in the 0-12 year age group are examined by race and mode of transmission, we see that children born to mothers who were at risk for or positive for HIV make up the largest percent among all races, ranging from 63% of cases among non-Hispanic whites to 93% of cases in non-Hispanic blacks and 100% of the cases listed as other or Hispanic. Hemophiliacs accounted for 7% of all male pediatric AIDS cases (15% of whites, 2% of blacks, 0% of others or Hispanics) and 12% of children with AIDS were infected following a transfusion of blood or blood product (28% of white cases, 5% of black cases, 0% of cases in others or Hispanics).

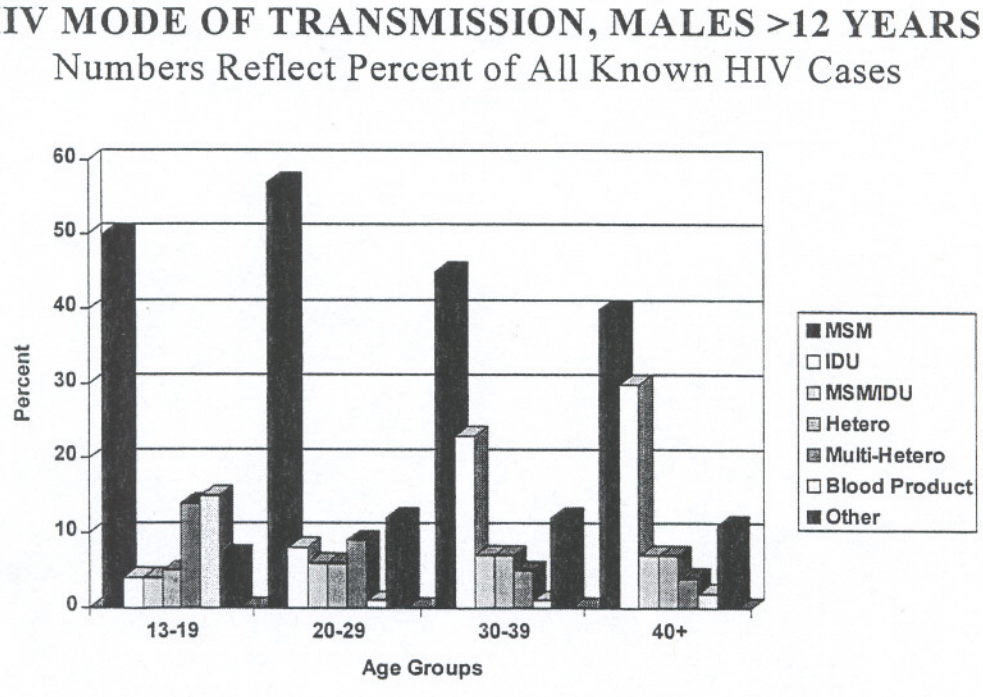


Figure 28

Males over the age of 12 years reported MSM behavior greater than 54% of the time, the greatest proportion of reports in all age groups (Figure 28). Heterosexual activity, the most commonly reported risk behavior in all females was highest among adolescent females (55%) and decreased with age to 41% in females 40 years and older (Figure 29). The use of injecting drugs as a risk factor for males increased with age, from 4% in persons 13-19 years, to 8% in those 20-29 years,

to over 20% in those over 30. Among females, injecting drug use was almost twice as common, ranging from 8% in adolescents to over 36% in persons over 30 years of age. Adolescents were more likely to report multi-heterosexual activity than other age groups (14% of males, 19% of females). The receipt of blood products was highest in males younger than 20 years (15% of that group) due to a higher proportion of hemophiliacs that age who received coagulation factors in the early years of the epidemic. Among females, transfusions or organ transplants were more likely to affect the over 39 year group (52% of reports in females citing transfusion or organ transplant were in persons over 39 years).

HIV MODE OF TRANSMISSION, FEMALES >12 YEARS

Numbers Reflect Percent of All Known HIV Cases

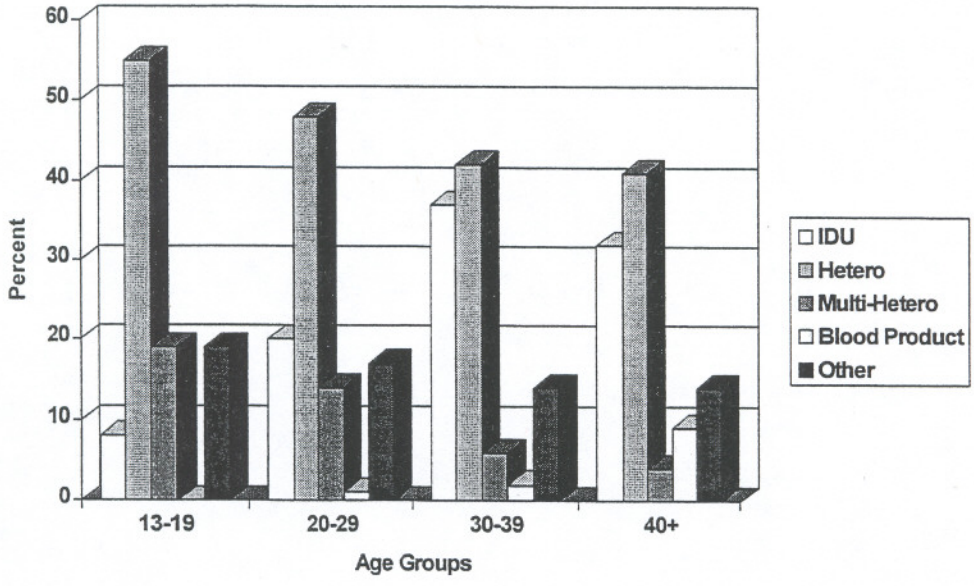


Figure 29

D. HIV/AIDS CASES BY REGION OF VIRGINIA

The Commonwealth of Virginia is divided into five health planning regions for use in Department of Health planning activities. For purposes of budget allocation and design of appropriate services, reports of HIV/AIDS are examined by region. A case of AIDS is assigned to a specific geographic region if the individual lived in that region when the diagnosis was made. As shown in Figure 30, the Northern Region, encompassing the localities in Virginia that border the District of Columbia, reported the most cases of AIDS each year until 1994 when the Eastern Region reported more (43% of all AIDS reports received). In 1996, the Northern Region dropped below both the Eastern and Central Regions in number of reports and the Eastern Region has continued to report the most cases.

AIDS CASES BY REGION AND YEAR OF REPORT

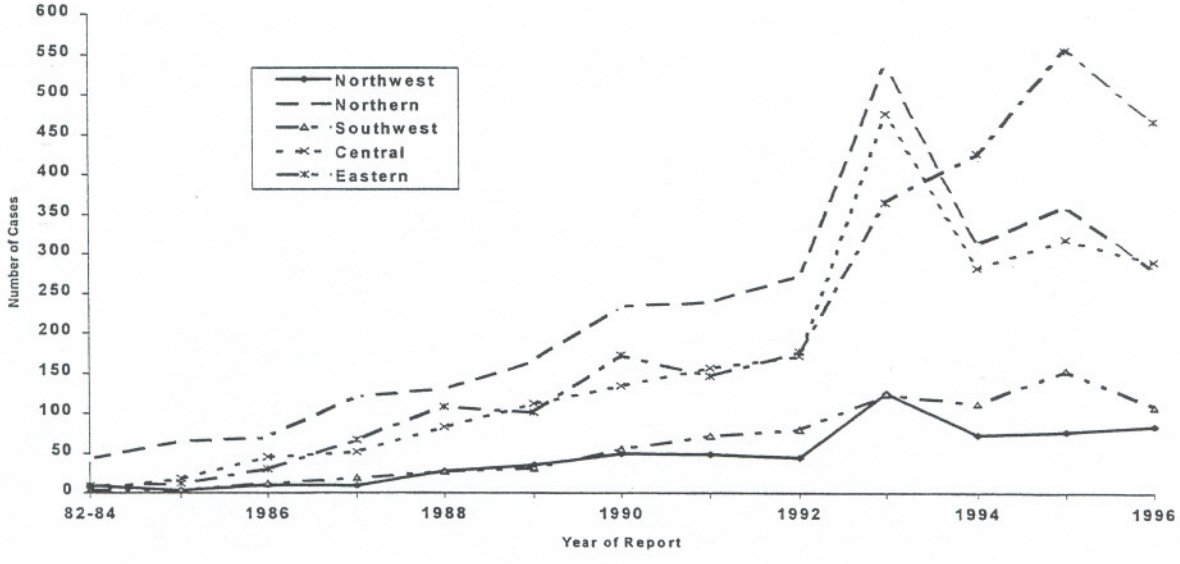


Figure 30

When the trends in annual incidence rates of AIDS per region are examined, it is seen that the Northern Region had the highest rate until 1993 when the Central Region rate increased (Figure 31). Since that time, the Eastern Region has had the highest rate in the state: 27.6 cases per 100,000 Eastern Region population in 1996 (Map 1, Page 41). The Central Region had the second highest incident rate in 1996 of 25.4 cases per 100,000, with the Northern Region reporting 17.2 cases per 100,000 population. The Northwest and Southwest Regions, the rural

areas of the state along the Blue Ridge and Appalachian Mountains, consistently report the fewest number of cases and also had the lowest 1996 incidence rates of 9.0 and 8.4 cases per 100,000, respectively (Figure 30 & Figure 31).

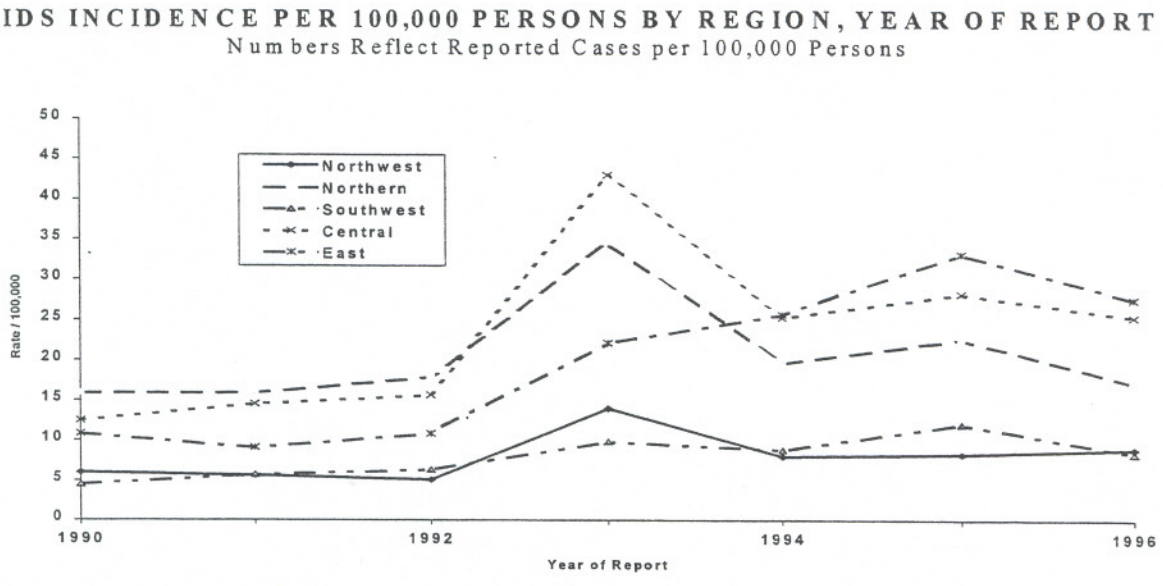


Figure 31

The prevalence rate for AIDS, the number of persons living with AIDS per population, varies by region. The Central Region has the highest 1996 rate (76.1 persons living with AIDS per 100,000 population in the Central Region) and the Southwest Region has the lowest (23.6 per 100,000) (Map 2, Page 42). These compare to a statewide rate of 53.0 per 100,000 population.

The Eastern Region has consistently accounted for the most yearly reports of HIV infection, over 40% of all reports received since reporting began (Figure 32), although the incidence rate was lower than the rate in the Central Region until 1996 (Figure 33). Twenty-six percent of all HIV reports were residents of the Central Region when identified as HIV infected, 20% lived in Northern Virginia, 9% in the Southwest Region of the state and 5% in the Northwest. The 1996 incidence rate for HIV infection in the Eastern Region was 28.4 per 100,000 Eastern Region population, 94% greater than the state incidence rate of 14.7 HIV infections per 100,000 persons (Map 3, Page 43). The Central Region rate of 17.9 per 100,000 persons was also higher than the

statewide rate by 22%. The other regions were lower than the state rate by 38% in the Northern Region, 49% in the Southwest and 62% in the Northwest.

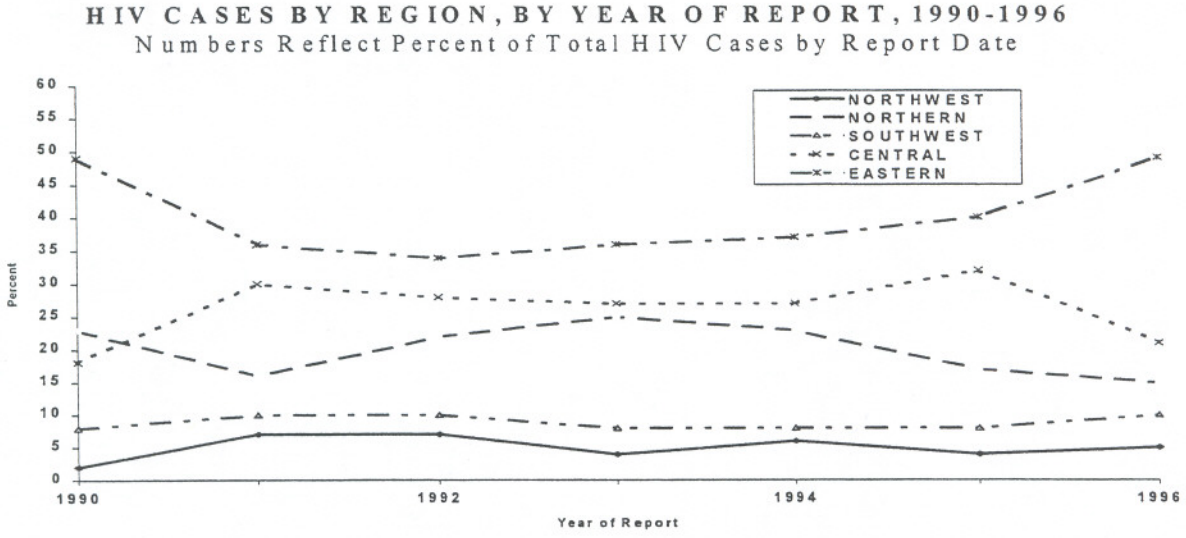


Figure 32

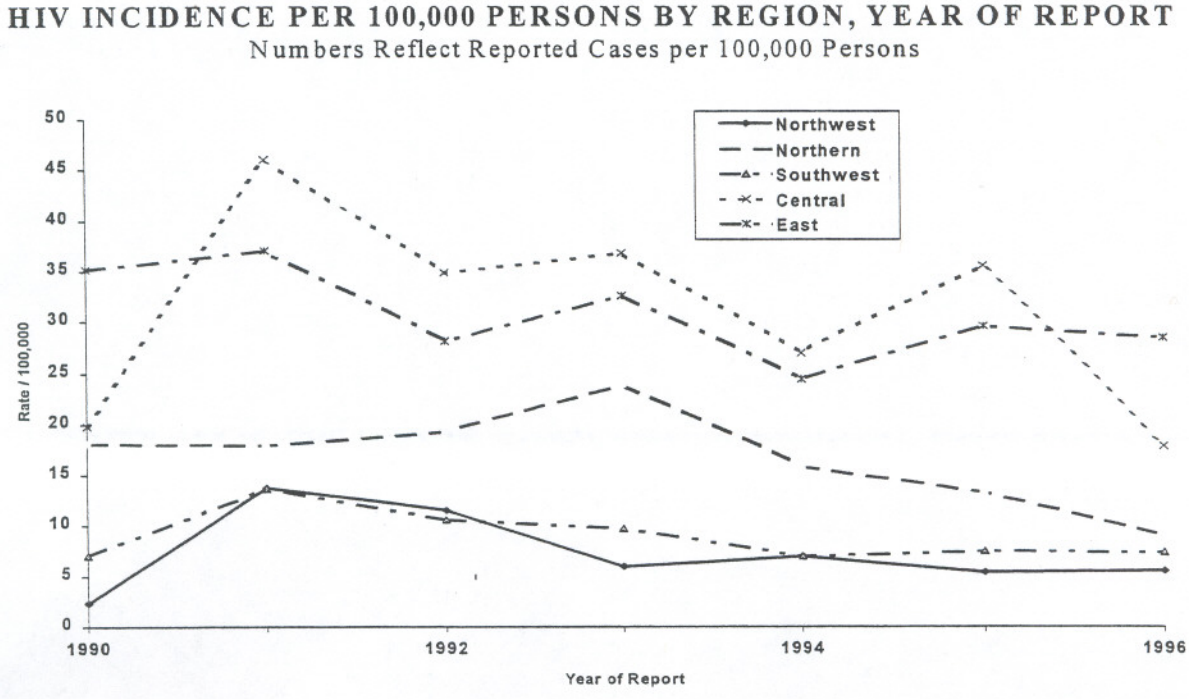


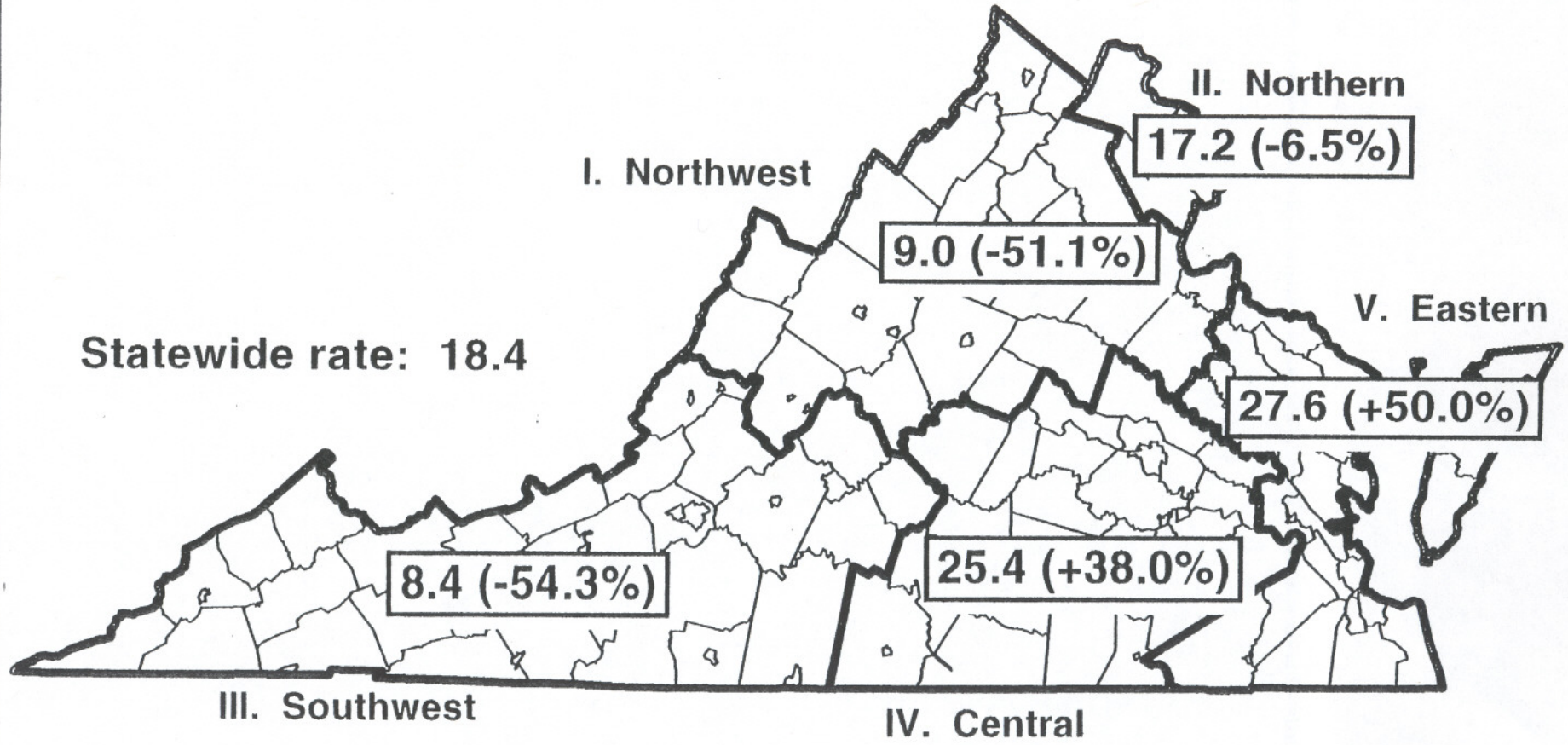
Figure 33

The 1996 prevalence rate for HIV was 93.0 per 100,000 persons in Virginia (Map 4, Page 44). When these rates are looked at by region, it is seen that the Eastern Region rate is 57% greater than the statewide rate and the Central Region is 49% higher. The rates in the Northern, Southwest and Northwest regions were all lower than the state (13%, 57%, 62% lower, respectively).

Regional Incidence of AIDS Cases per 100,000 Persons

Commonwealth of Virginia, 1996

Numbers are incidence rates by region, followed by difference from state rate

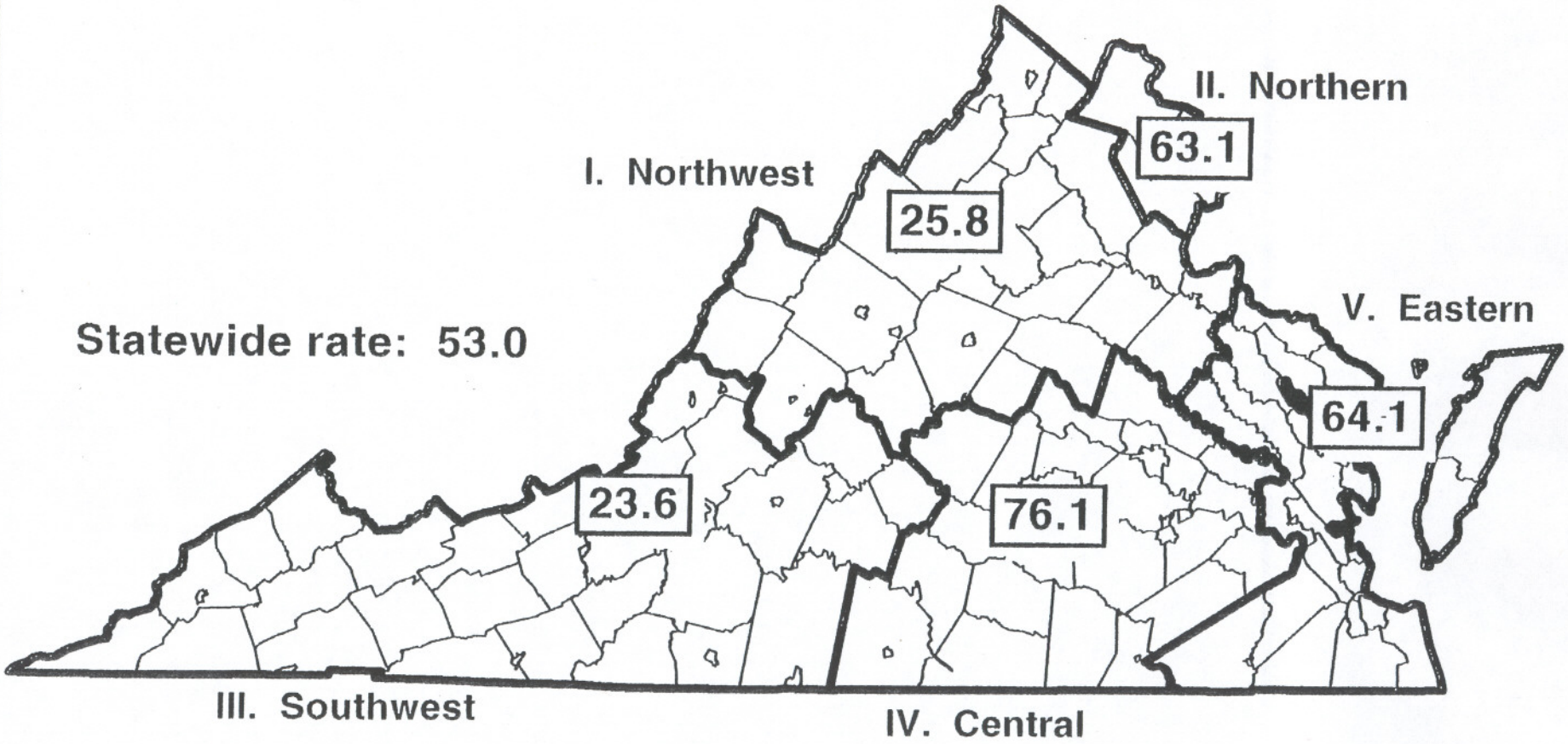


Cases were identified by date of report.

Regional Prevalence of Persons Living with AIDS as of 12/31/96

Commonwealth of Virginia, 1996

Numbers represent rate per 100,000 persons

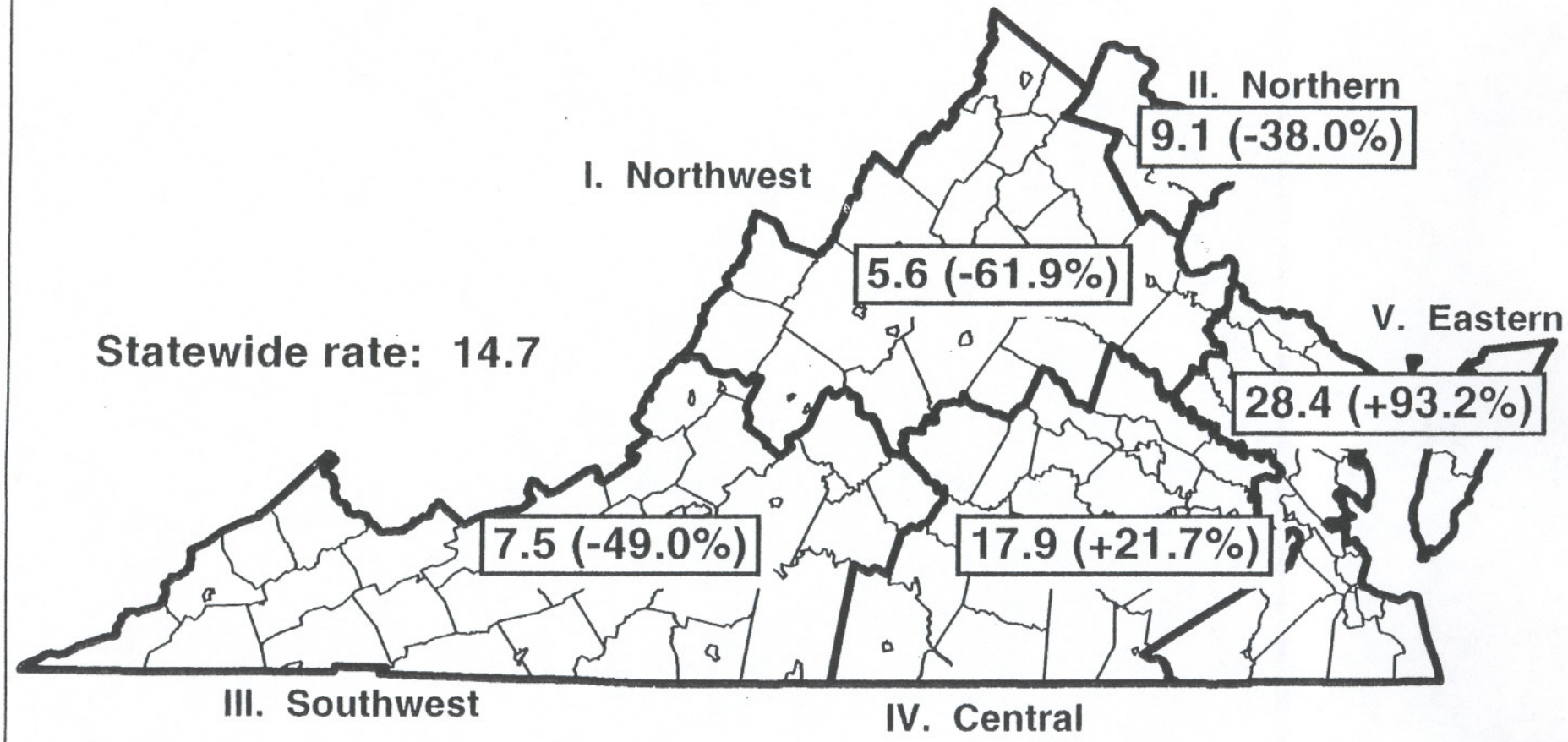


Cases were identified by date of report.

Regional Incidence of HIV Cases per 100,000 Persons

Commonwealth of Virginia, 1996

Numbers are incidence rates by region, followed by difference from state rate

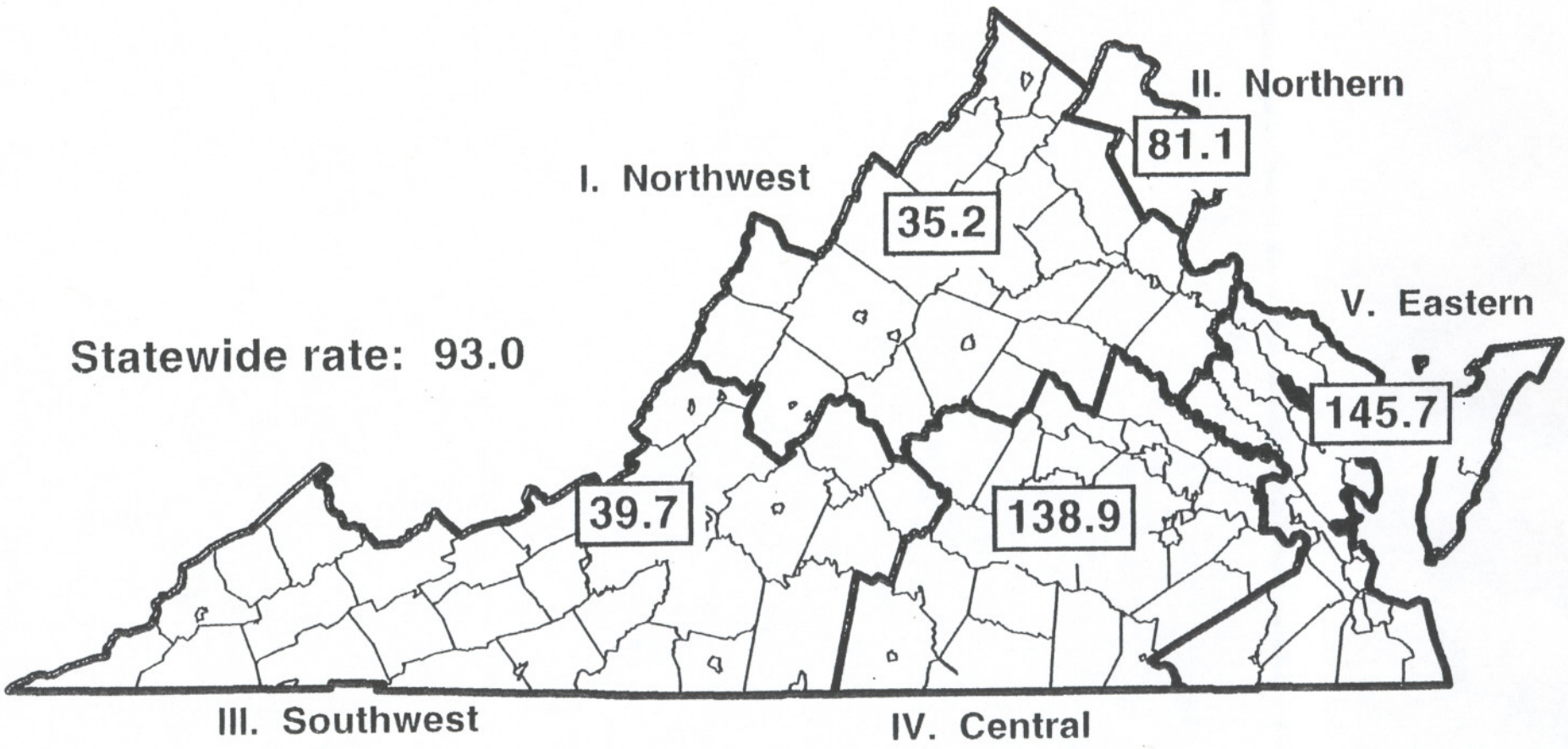


Cases were identified by date of report.

Regional Prevalence of Persons Living with HIV as of 12/31/96

Commonwealth of Virginia, 1996

Numbers represent rate of infection per 100,000 persons



Cases were identified by date of report.

SECTION II: REGIONAL OBSERVATIONS

A. HIV/AIDS IN THE NORTHWEST REGION OF VIRGINIA

The Incidence of AIDS by Gender, Race and Age

A total of 594 cases of AIDS have been reported from the Northwest Region of Virginia since reporting of AIDS cases began, accounting for 7% of reports statewide. This proportion has remained quite stable since the mid 1980s. As seen in Figure 34, there was a large increase in number of reports during 1993, as seen across the state, with a subsequent drop in 1994, but the overall trend still appears to be an increase in yearly reports. There were 84 reports received on individuals from this region during 1996.

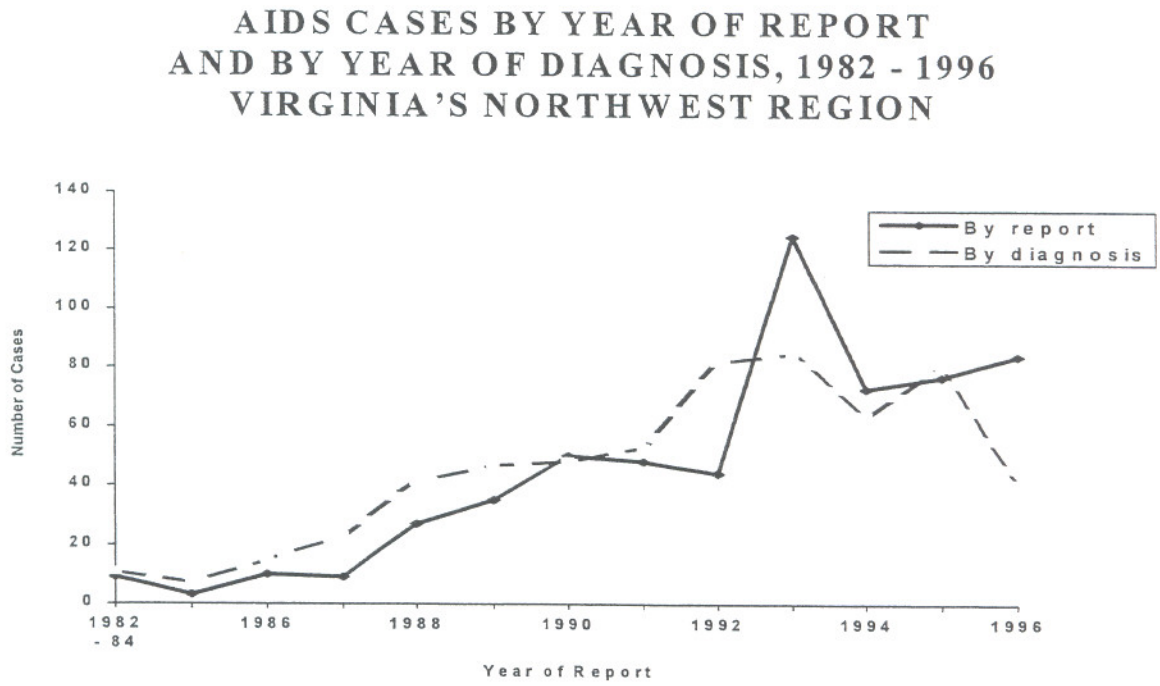


Figure 34

The proportion of males to females is similar in the Northwest Region to the state as a whole, 84% males and 16% females, and has not changed over time (the change in shape of the curve in 1983 through 1987 is due to very small numbers of cases reported in those years) (Figure 35).

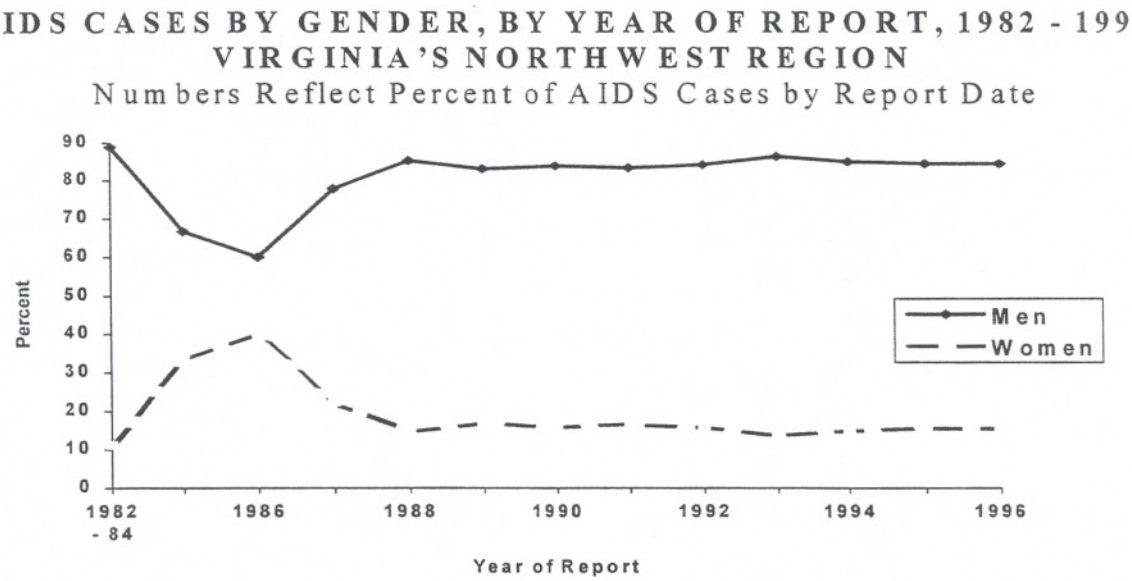


Figure 35

Racially, the distribution differs from other areas in Virginia because non-Hispanic whites continue to account for over 57% of yearly cases and make up the majority of reports from this region (62%) (Figure 36).

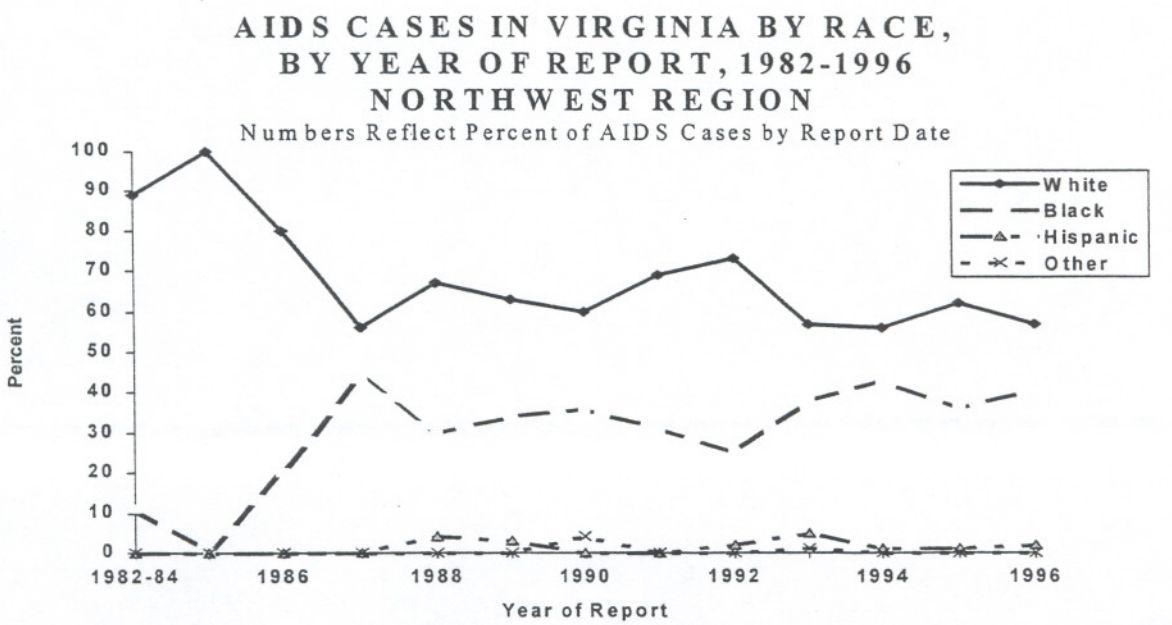


Figure 36

Non-Hispanic blacks account for 36%, Hispanics 2% and individuals of other races <1%. When racial groups are broken down by sex, it is seen that white males have been twice as likely to be reported with AIDS as black males in this region (54% of all reports versus 27%, respectively). Although non-Hispanic black females have been reported slightly more often than non-Hispanic white females the distribution is much less skewed than that for the state as a whole (8% of all Northwest Region reports versus 7%, respectively).

The distribution of age groups in the Northwest Region is also similar to the state (41% 30-39 year olds, 35% 40-49 year olds, 22% 20-29 years, 1.3% < 13 years, and <1% 13-19 year olds). But, as seen in Figure 37, reports of AIDS in persons 20-29 years of age decreased over the last three years, while reports in persons over 29 continue to increase. Reports of AIDS among adolescents and children have remained stable since reporting began.

AIDS CASES BY AGE, BY YEAR OF REPORT, 1982 - 1996
VIRGINIA'S NORTHWEST REGION

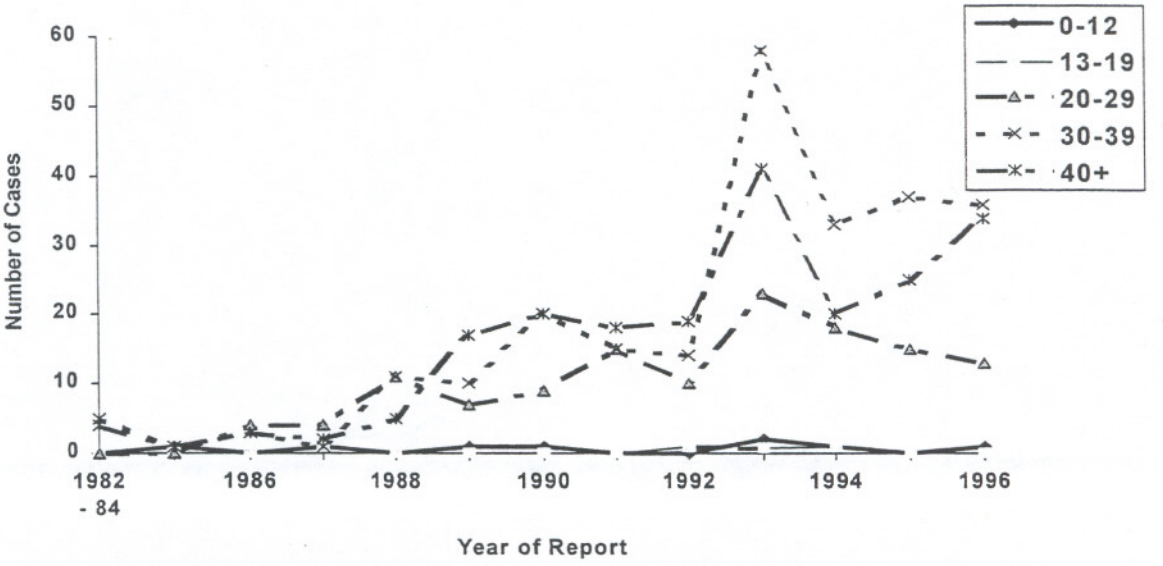


Figure 37

The Incidence of HIV Infections by Gender, Race and Age

There have been 460 reports of HIV infection in persons living in the Northwest Region of Virginia since 1989, 5% of all HIV infection reports received in Virginia. The yearly number of reports peaked in 1991 (118 reports) and has decreased since (Figure 38).

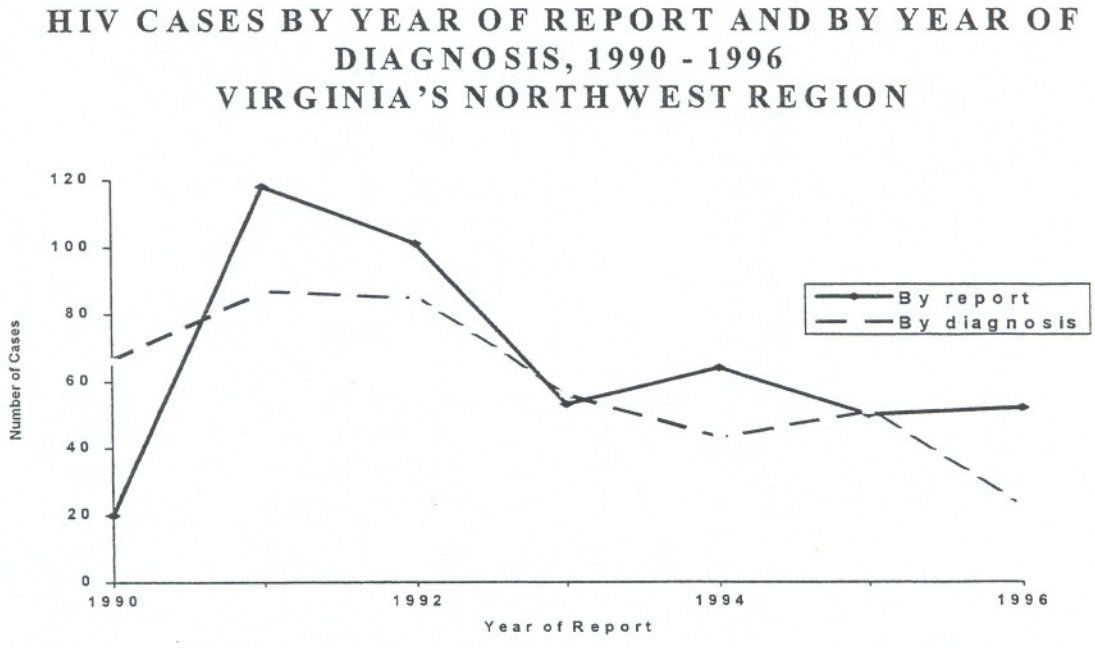


Figure 38

As with AIDS, the gender and age distribution of HIV infection reports are similar to those statewide with the proportion of reports among females increasing since reporting began (Figure 39). Overall, males account for 77% of reports and females 23%.

Reports of HIV infection received from the Northwest Region are closely divided between white and black non-Hispanic groups (Figure 40). When broken down by sex, it is seen that white males have consistently been reported more frequently than black males (58% versus 40%, respectively) but black non-Hispanic females are more likely to be infected than white non-Hispanic females in this region (58% versus 41%, respectively). Persons of other races or Hispanic ethnicity make up 2% of all known HIV infections in the Northwest Region of the state.

HIV CASES BY GENDER, BY YEAR OF REPORT, 1990 - 1996
VIRGINIA'S NORTHWEST REGION

Numbers Reflect Percent of HIV Cases by Report Date

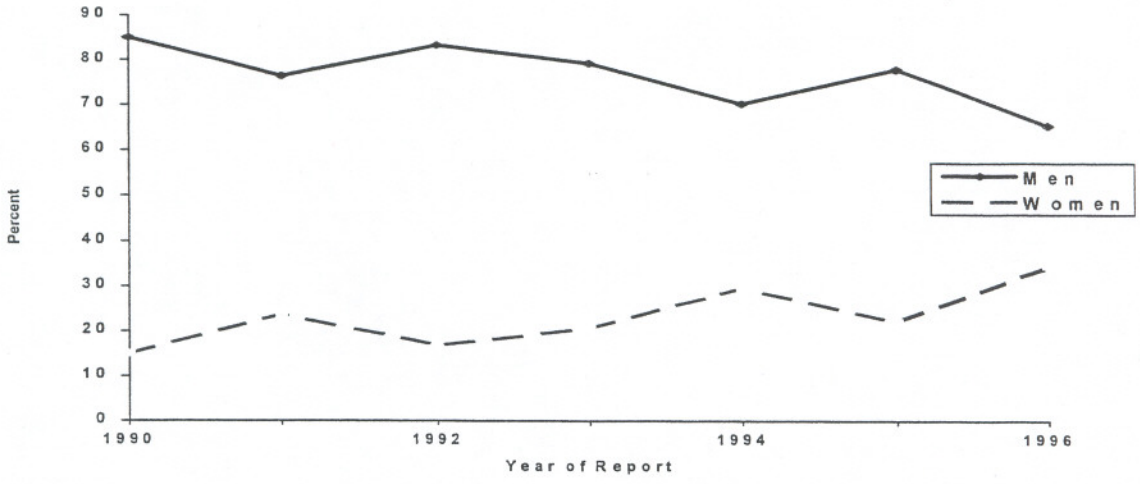


Figure 39

HIV CASES IN VIRGINIA BY RACE, BY YEAR OF REPORT, 1990-1996 NORTHWEST REGION

Numbers Reflect Percent of HIV Cases by Report Date

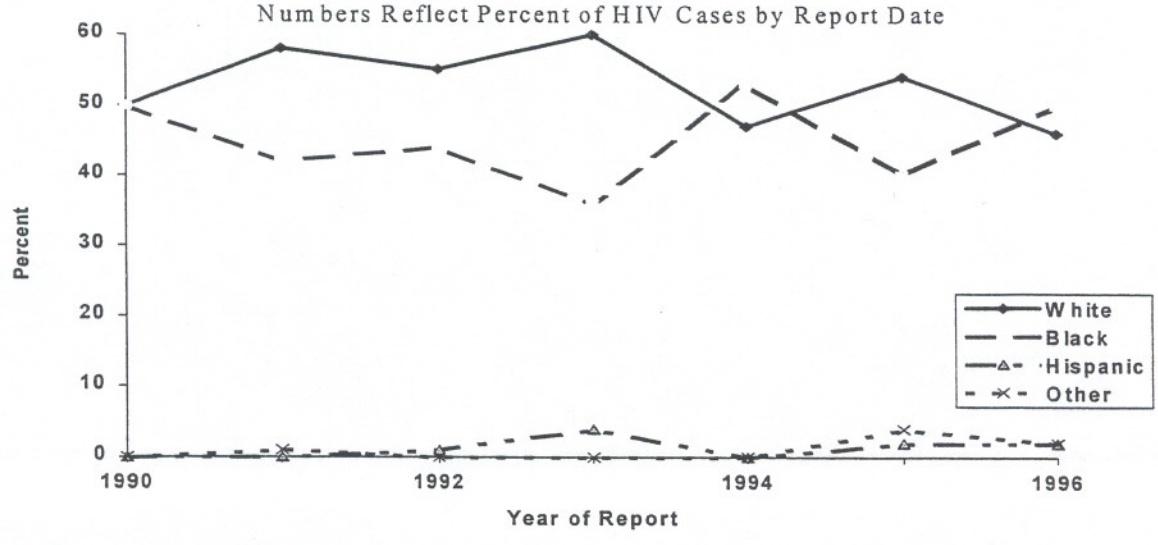


Figure 40

Individuals in the 20-29 year age bracket and the 30-39 year age group have each accounted for 37% all HIV infection reports from this region, followed by persons 40 years of age and older

(21%), adolescents 13-19 years (4%) and children < 13 (2%). If the number of reports in each age group is looked at over time, it is seen that reports among persons 30-39 years of age have continually dropped since 1991, whereas reports of HIV among persons 40 years and older peaked in 1991, decreased until 1993 and have continued to increase since that time (Figure 41).

HIV CASES BY AGE, BY YEAR OF REPORT, 1990 - 1996
VIRGINIA'S NORTHWEST REGION

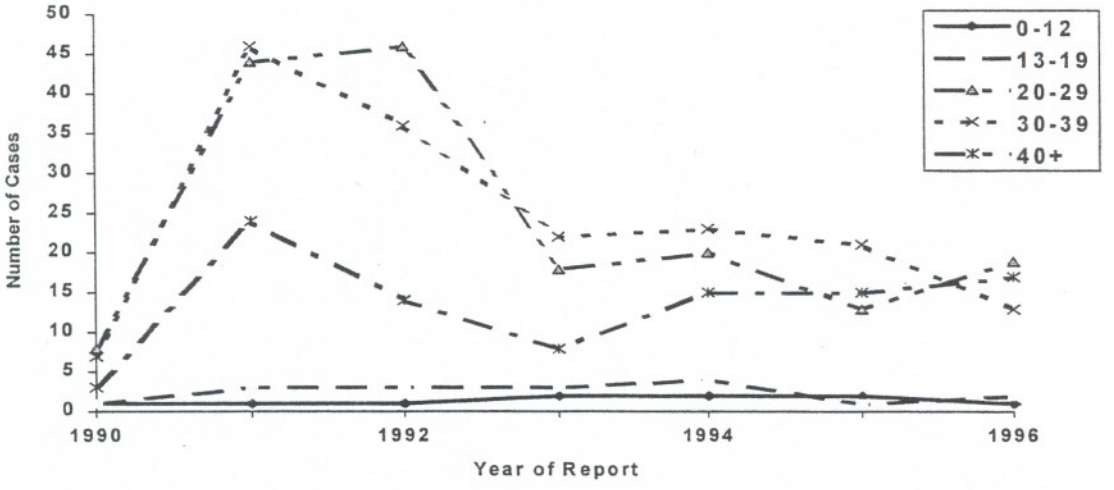


Figure 41

Mode of Transmission

The mode of transmission reported most frequently in the Northwest Region has been MSM whether for cases of AIDS (50% of all AIDS reports) or HIV infections (37%) (Figure 42 & Figure 43) (Very small numbers of AIDS reports from this region in the early 1980s account for the shape of the curve in Figure 42 prior to 1988). For HIV infections, IDU has been associated with 21% of all infections but appears to be decreasing in frequency while heterosexual activity (15% of all reports) has remained relatively stable.

AIDS CASES BY MODE OF TRANSMISSION, BY YEAR OF REPORT, 1982 - 1996 VIRGINIA'S NORTHWEST REGION

Numbers Reflect Percent of AIDS Cases by Report Date

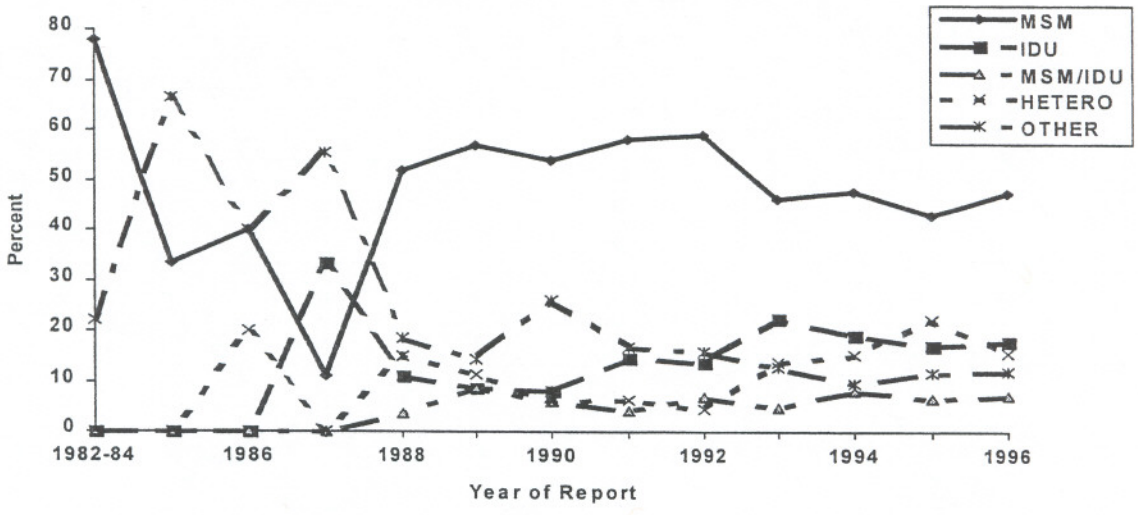


Figure 42

HIV CASES BY MODE OF TRANSMISSION, BY YEAR OF REPORT, 1990 - 1996 VIRGINIA'S NORTHWEST REGION

Numbers Reflect Percent of HIV Cases by Report Date

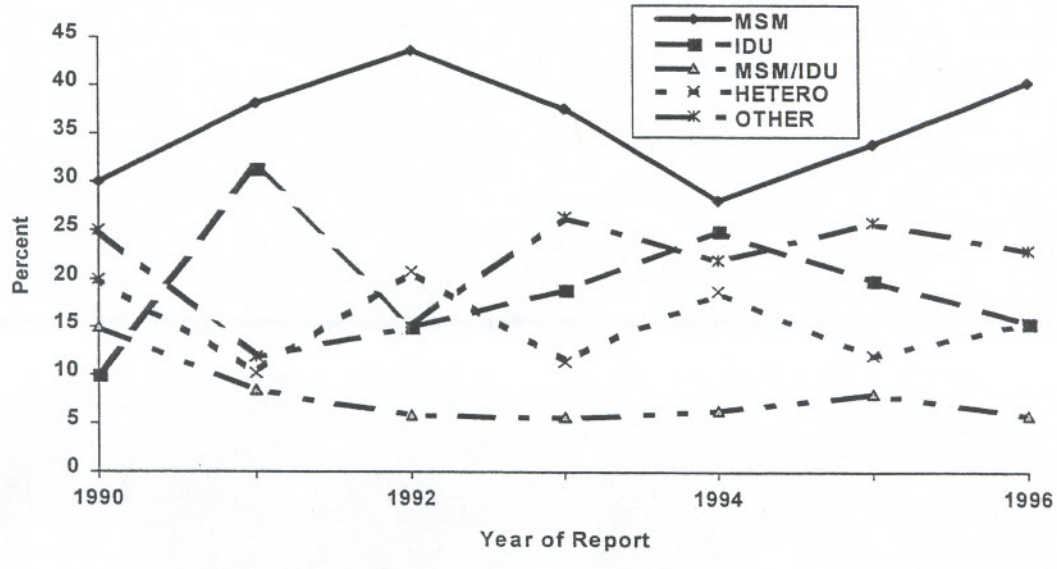


Figure 43

Persons Living with AIDS/HIV in the Northwest Region

There were 242 individuals with diagnosed AIDS (41% of all reported from the Northwest Region) and 330 infected with HIV (72% of those reported) living as of December 31, 1996. This is 7% of all persons living with AIDS in Virginia and 5% of those living with HIV. Map 2 (page 42) demonstrates that the 1996 prevalence rate for persons with AIDS in the Northwest Region of Virginia (25.8 per 100,000 population) was less than half the prevalence rate for the state as a whole (53.0 per 100,000 population). The prevalence rate for persons living with HIV infection from this region was 62% less than the statewide rate (35.2 per 100,000 region population versus 93.0 per 100,000 population, statewide) (Map 4, page 44).

Sexual breakdowns of those persons living with AIDS or HIV are similar to statewide distributions of reports. Racially, there is a greater concentration of white non-Hispanics in the Northwest Region than statewide (55% versus 43%, respectively, for AIDS; 52% versus 31%, respectively for HIV infection). Although the number is small (9 persons), the proportion of children < 13 years of age is higher in this region than either statewide or in other regions.

Tables of persons living with AIDS and with HIV in the Northwest Region by age, race and sex can be found in the Appendix.

B. HIV/AIDS IN THE NORTHERN REGION OF VIRGINIA

The Incidence of AIDS by Gender, Race and Age

Thirty-one percent of all AIDS reports received (2,831 out of 9,215) have been reported in persons living in the Northern Region of Virginia at the time of diagnosis. This is greater than any other region of the state but in 1996 both the Eastern and Central Regions reported more cases (279 Northern, 468 Eastern and 291 Central Region). The AIDS epidemic in Virginia started in the Northern Region, but since 1993, when reports from this region peaked, the trend has been a declining one (Figure 44). In 1996, 279 reports of AIDS cases living in the Northern Region were received.

AIDS CASES BY YEAR OF REPORT AND BY YEAR OF DIAGNOSIS, 1982 - 1996 VIRGINIA'S NORTHERN REGION

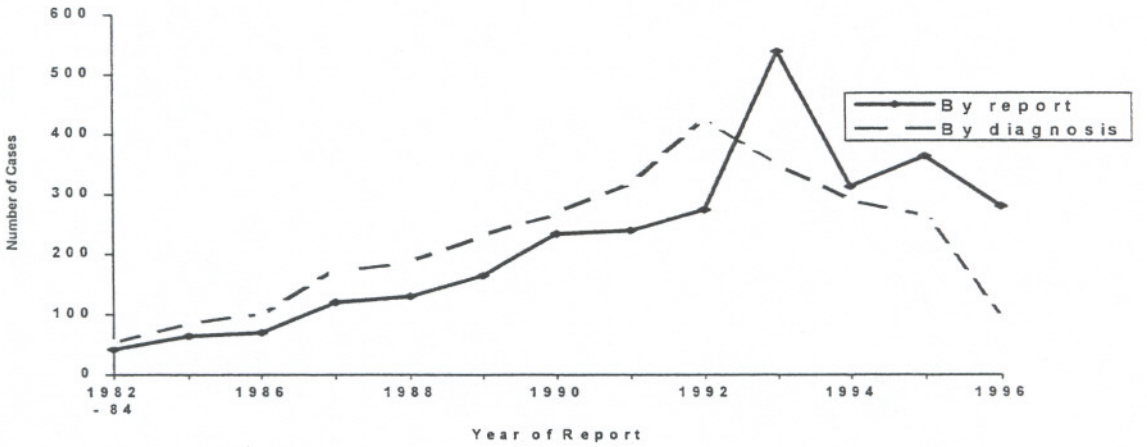


Figure 44

Reports of AIDS from the Northern Region have been overwhelmingly of males (91% males, 9% females), but that appears to be changing (Figure 45). During 1995 and 1996, females accounted for 17% and 13% of AIDS reports, respectively.

AIDS CASES BY GENDER, BY YEAR OF REPORT, 1982 - 1996 VIRGINIA'S NORTHERN REGION

Numbers Reflect Percent of AIDS Cases by Report Date

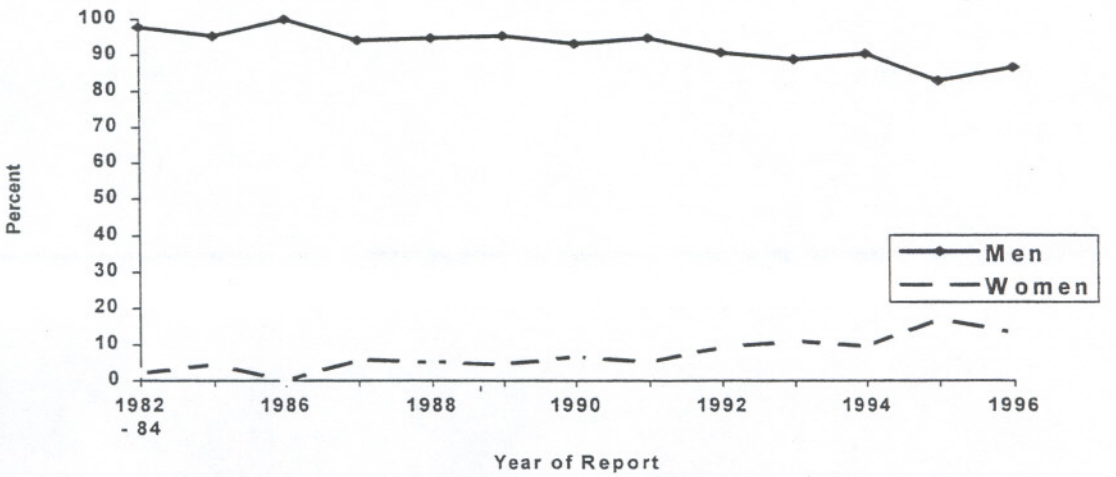


Figure 45

White non-Hispanics have consistently made up the majority of annual reports. Whites have accounted for 65% of all AIDS reports, black non-Hispanics 28%, Hispanics 6% and persons of other races 1%, but the distribution is changing with whites showing a downward trend consistent with the rest of the state and blacks and Hispanics still increasing (Figure 46). Sixty-nine percent of all males with AIDS reported from the Northern Region have been white non-Hispanic, 25% have been black non-Hispanic and 1% have been of other races. Among females, 57% of reports have been in black non-Hispanics, 33% in whites and 3% in others. Reports of AIDS in Hispanics account for 6% of all AIDS reports received from the Northern Region, this is more than twice the proportion seen in any other region of the state. Hispanics have accounted for 5% of reports in males and 7% of those among females.

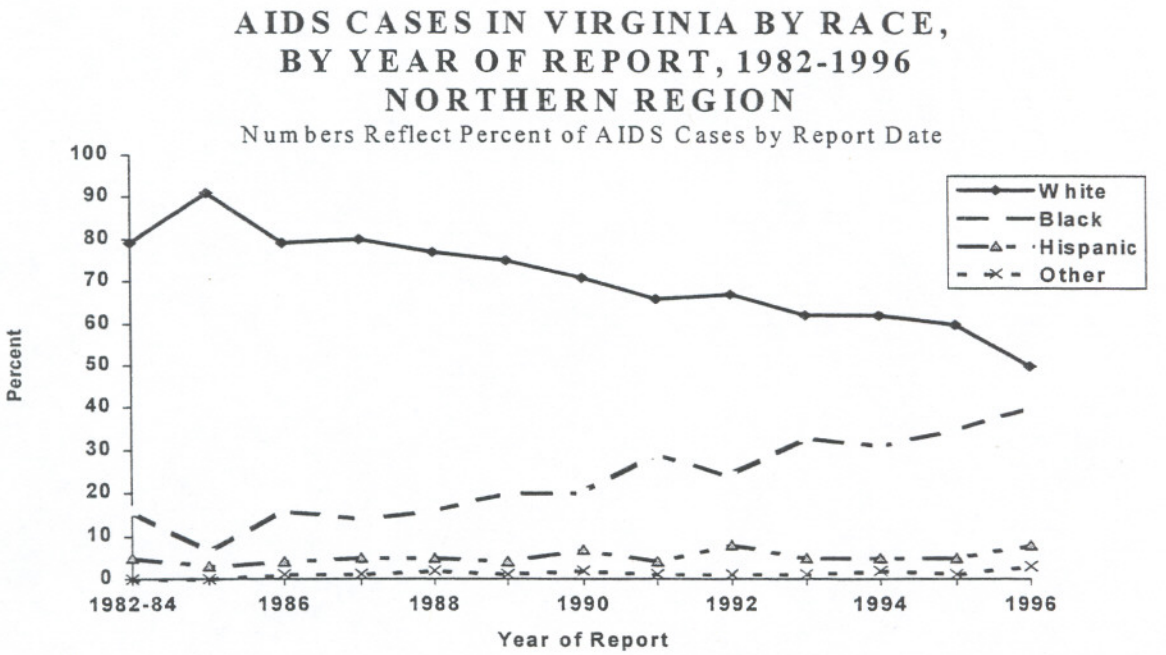


Figure 46

The age distribution of AIDS cases in the Northern Region is similar to that seen statewide and has not changed over the years while reports increased in number (Figure 47). The average age of individuals reported with AIDS is 37.7 years, compared to 36.7 years statewide. The 30 to 39 year age group have been the most commonly reported in this region, accounting for 45% of all reports, followed by persons 40 years and over (37%) and 20 to 29 year olds (17%). Children

younger than 13 years and adolescents 13-19 years of age accounted for only 1% and < 1%, respectively, of AIDS reports. When reports are examined by year and age group it is seen that although reports in individuals over the age of 29 appear to be decreasing, those in the 20 to 29 year age group are not.

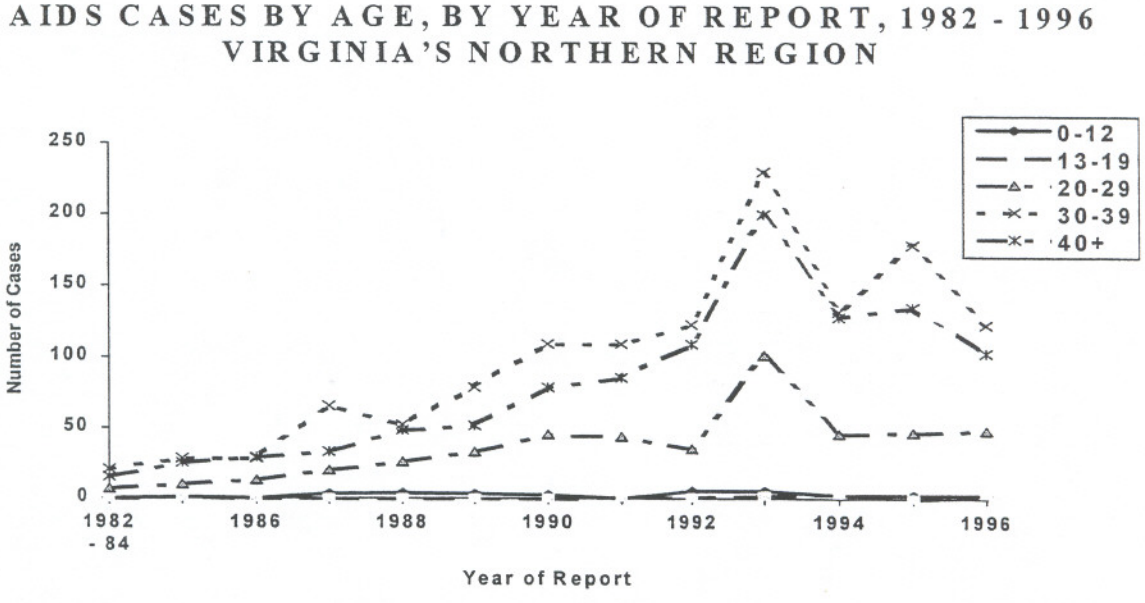


Figure 47

The Incidence of HIV Infections by Gender, Race and Age

In contrast to AIDS, Northern Virginia accounts for only 20% of all reports of HIV infections received since reporting began in 1989 and this proportion appears to be decreasing. The number of reports per year increased between 1990 and 1993 but have consistently declined since that time (Figure 48); 148 reports of HIV infection were received in 1996 and a total of 1,845 have been recorded since reporting began. It is difficult to interpret this trend because although many persons living in Northern Virginia receive their care in the District of Columbia (D.C.) and in contrast to Virginia, HIV is not reportable in D.C. This means that individuals who reside in Northern Virginia, but are identified as HIV-positive by a physician or laboratory in D.C., will not be reported to Virginia.

HIV CASES BY YEAR OF REPORT AND BY YEAR OF DIAGNOSIS, 1990 - 1996
VIRGINIA'S NORTHERN REGION

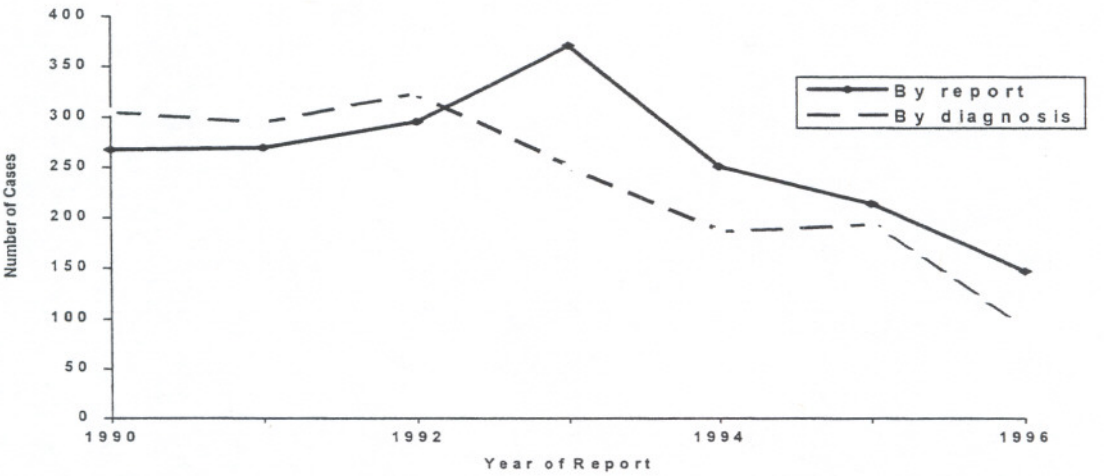


Figure 48

For those reports that have been received on Northern Virginia residents, gender distributions are similar to those seen statewide: 73% males, 27% females (Figure 49).

HIV CASES BY GENDER, BY YEAR OF REPORT, 1990 - 1996
VIRGINIA'S NORTHERN REGION

Numbers Reflect Percent of HIV Cases by Report Date

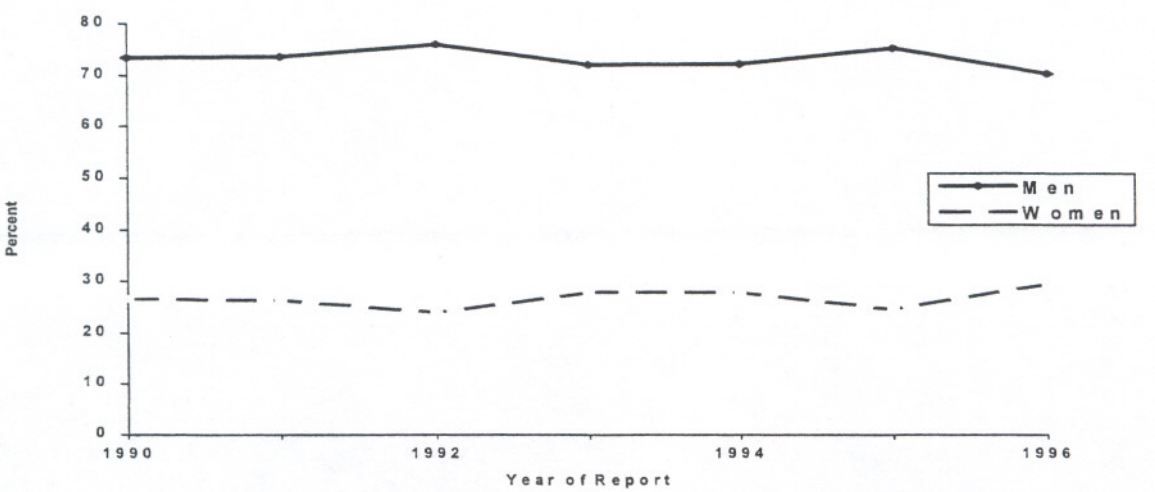


Figure 49

Race and ethnic breakdowns reveal that non-Hispanic blacks account for 53% of all HIV infection reports, non-Hispanic whites 40%, Hispanics 5% and persons of other races 2%. Reports in blacks and whites have decreased in number since reaching their peak in 1993 but as statewide, the number in non-Hispanic whites is decreasing at a greater rate (Figure 50). The number of reports received on Hispanics and persons of other races decreased in 1996 but it is too soon to determine whether or not the decline will continue.

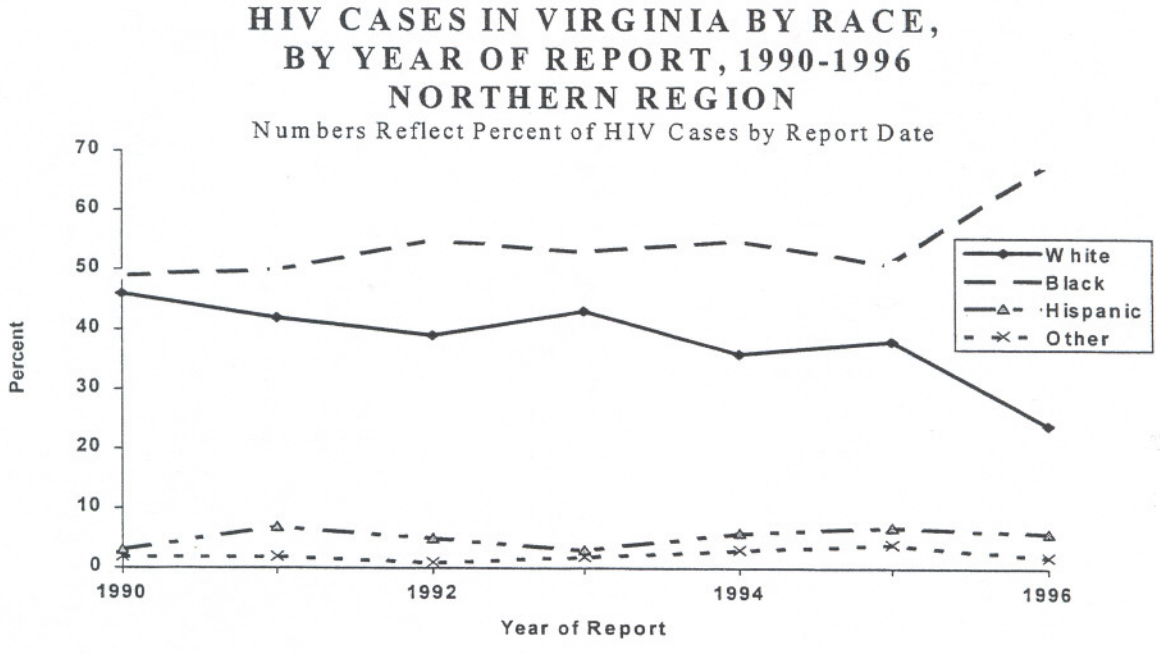


Figure 50

The age distribution of HIV reports in the Northern Virginia Region is similar to reports statewide. Individuals in the 30 to 39 year age group are the most commonly reported group (44%), followed by those 20 to 29 years of age (31%), persons 40 years of age and older (23%), adolescents (2%) and children < 13 years (1%). As seen in Figure 51, the number of reports received yearly are decreasing in every age group, particularly those between 20 and 39 years.

HIV CASES BY AGE, BY YEAR OF REPORT, 1990 - 1996
VIRGINIA'S NORTHERN REGION

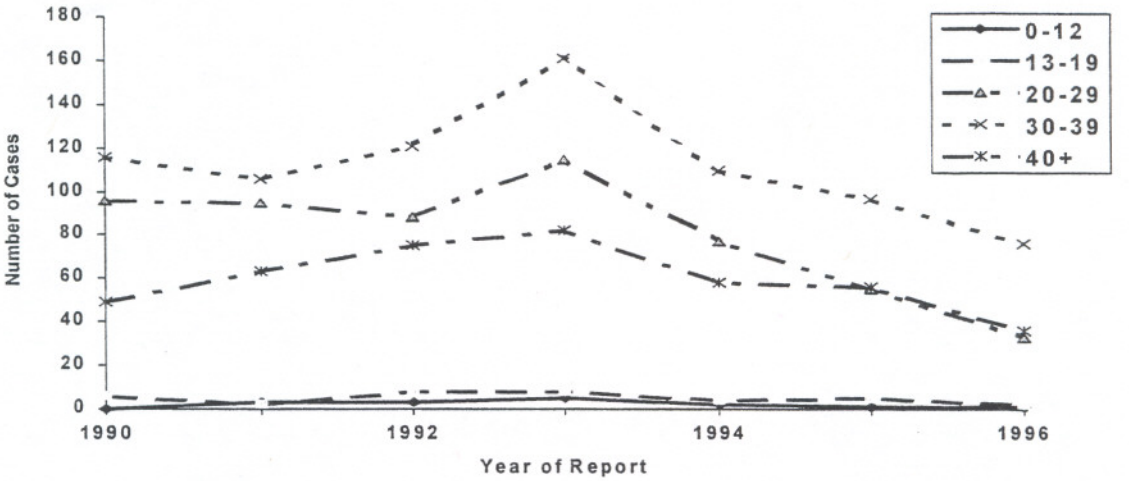


Figure 51

Mode of Transmission

When mode of transmission among AIDS cases from Northern Virginia is examined over time, MSM is the risk reported most frequently with other modes accounting for very few cases until recently (Figure 52). The proportions have gradually changed over time and in 1996 MSM accounted for 36% fewer reports than in 1982-84 (58% versus 91%, respectively). The risk behavior IDU has increased in frequency over the last ten years and accounted for 17% of AIDS reports in 1996. Heterosexual activity with a person at-risk for, or infected with, HIV has also increased and was reported for 10% of AIDS cases during 1996.

Until 1996, the most commonly reported mode of transmission for persons living in the Northern Region and reported as HIV-positive was MSM, accounting for 36% of reports overall (Figure 53). In 1996, the proportion dropped significantly but this is possibly due to the higher percentage of reports with an as-yet unidentified risk (seen in the other mode group). Injecting drug use has been responsible for 23% of all HIV infection reports received on individuals in the Northern Region but has been decreasing in number and proportion.

AIDS CASES BY MODE OF TRANSMISSION, BY YEAR OF REPORT, 1982 - 1996 VIRGINIA'S NORTHERN REGION

Numbers Reflect Percent of AIDS Cases by Report Date

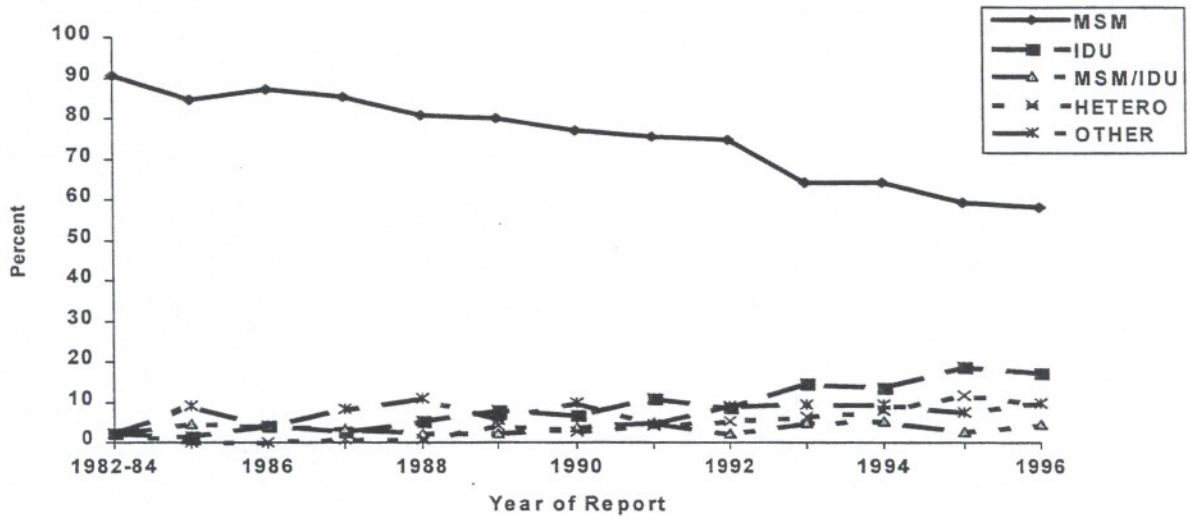


Figure 52

HIV CASES BY MODE OF TRANSMISSION, BY YEAR OF REPORT, 1990 - 1996 VIRGINIA'S NORTHERN REGION

Numbers Reflect Percent of HIV Cases by Report Date

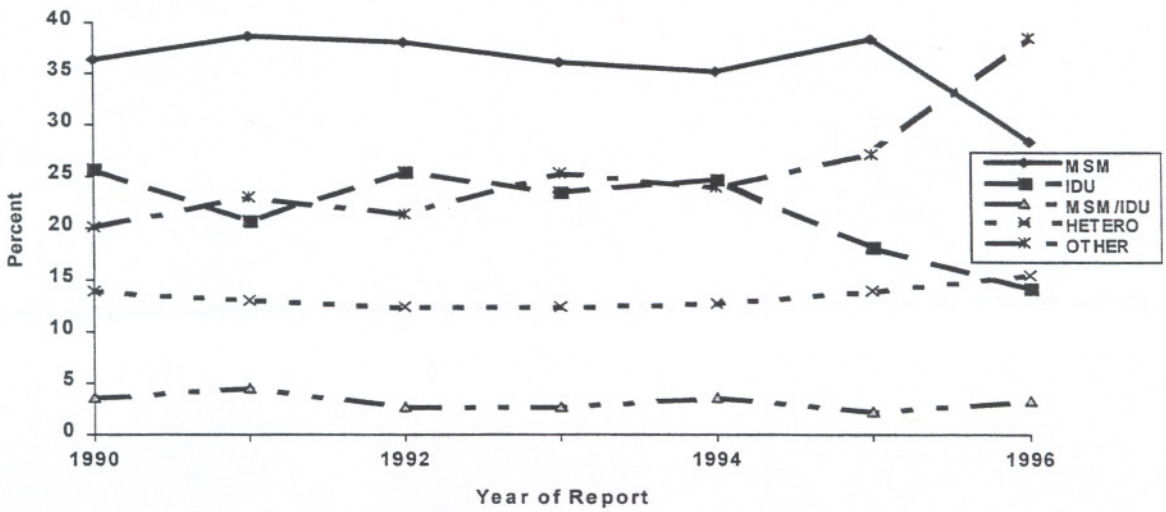


Figure 53

Persons Living with AIDS/HIV in the Northern Region

At the end of 1996, there were 1,026 persons identified as living with AIDS who were reported from Northern Virginia. This is 36% of all those reported. Seventy-two percent of all persons reported with HIV infection from this region (1,320/1,845) were alive as of December 31, 1996. Eighty-eight percent of those living with AIDS in Northern Virginia are males, slightly more than the statewide distribution of 83%. Among those living with HIV infection, 70% are males versus 73% statewide.

The racial distributions among this population reflect the changes in the groups currently being exposed to the virus. Fifty-seven percent of those living with AIDS are white yet only 36% of those infected with HIV are white. Both of these figures are higher than the state concentrations of 43% and 31%, respectively. Non-Hispanic blacks account for 35% of persons reported as living in Northern Virginia with AIDS and 57% of persons infected with HIV; both numbers are lower than statewide. Hispanics account for 7% of those living with AIDS and 5% of those infected with HIV and persons of other races are approximately 2% of both groups. This region has the greatest concentration of Hispanics and persons of other races living with AIDS or infected with HIV.

The 1996 prevalence for persons from Northern Virginia living with AIDS (63.1 per 100,000 region population) was 16% greater than the statewide rate (53.0 per 100,000) (Map 2, page 42). The prevalence rate for persons living with HIV infection from this region was 81.1 per 100,000, 13% less than the statewide rate (Map 4, page 44).

Tables of persons living with AIDS and with HIV in the Northern Region by age, race and sex can be found in the Appendix.

C. HIV/AIDS IN THE SOUTHWEST REGION OF VIRGINIA

The Incidence of AIDS by Gender, Race and Age

The first cases of AIDS in the Southwest Region of Virginia were not reported until 1984 when four males were reported with the disease. Since that time, a total of 803 reports have been received from this region, 9% of all the AIDS reports received (Figure 54). The number of annual reports of AIDS from the Southwest Region of Virginia increased continually through 1995 when 154 cases were reported. A 1995 validation study done in the Southwest Region of Virginia contributed to the peak seen in 1995. During 1996, the number of reports decreased by 30% to 108 reports, similar to the number reported in 1994.

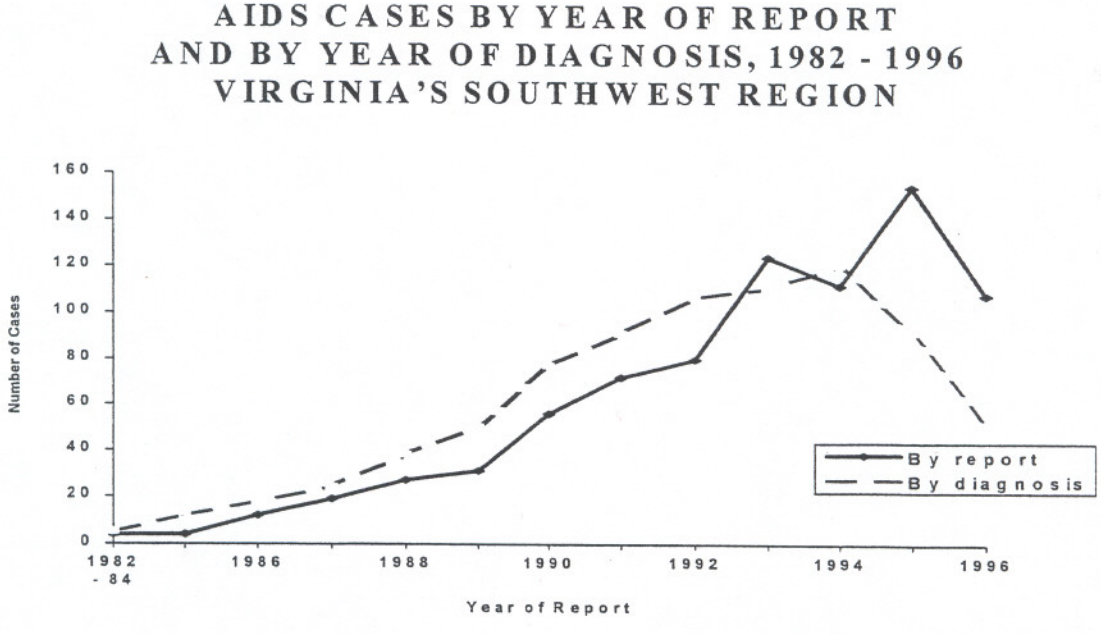


Figure 54

As seen elsewhere in the state, the majority of AIDS reports have been in males (83%), although the trend appears to be changing (Figure 55). During 1996, women accounted for 20% of all AIDS reports received compared to 16% in 1990.

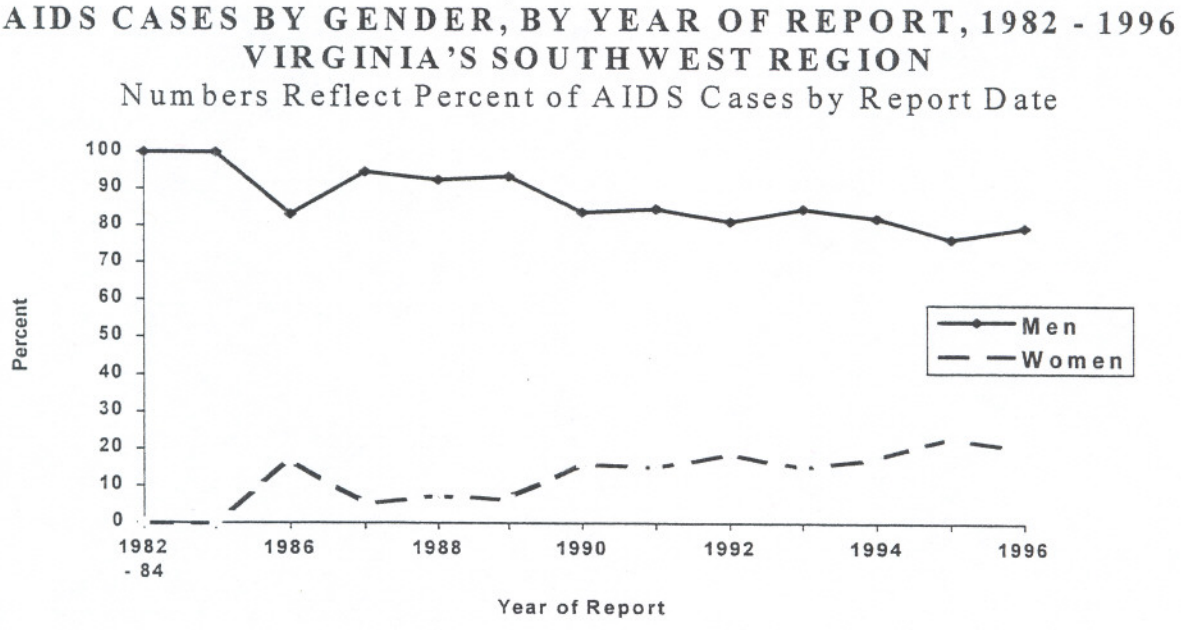


Figure 55

Racially, non-Hispanic whites have been reported from this region more frequently than non-Hispanic blacks (Figure 56). Non-Hispanic white males remain the most commonly reported

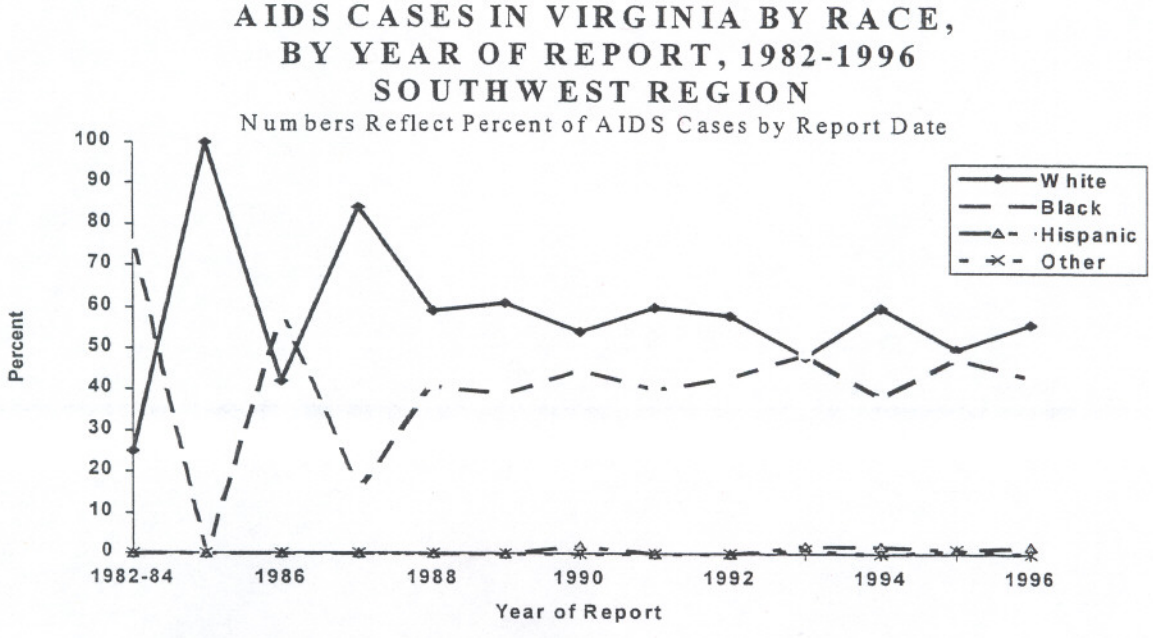


Figure 56

group from this region, accounting for 60% of all AIDS reports (397/664) and 62% (53/86) during 1996. Non-Hispanic black males made up 36% of AIDS reports in males from the Southwest Region in 1996 and 39% of all AIDS reports in males from this region (258/664). Black females have traditionally been reported more frequently than white females and account for 65% of all AIDS reports in females from this region (90/139) . During 1996, black females were reported 68% of the time and white females 32% (7/22 and 15/22, respectively). Only nine persons reporting Hispanic ethnicity and only two reporting another race have been reported from the Southwest Region.

When reports of AIDS patients from this region are examined by age, a pattern similar to the state is seen. Persons between 30 and 39 years of age have consistently been reported most frequently (44% of all reports) followed by individuals 40 years and older (31% of all reports). But as seen on Figure 57, reports in those 30 to 39 years dropped substantially in 1996 compared to 1995 (44 versus 72 reports, respectively) whereas the number of reports in persons over 40 did not (42 versus 43, respectively).

AIDS CASES BY AGE, BY YEAR OF REPORT, 1982 - 1996
VIRGINIA'S SOUTHWEST REGION

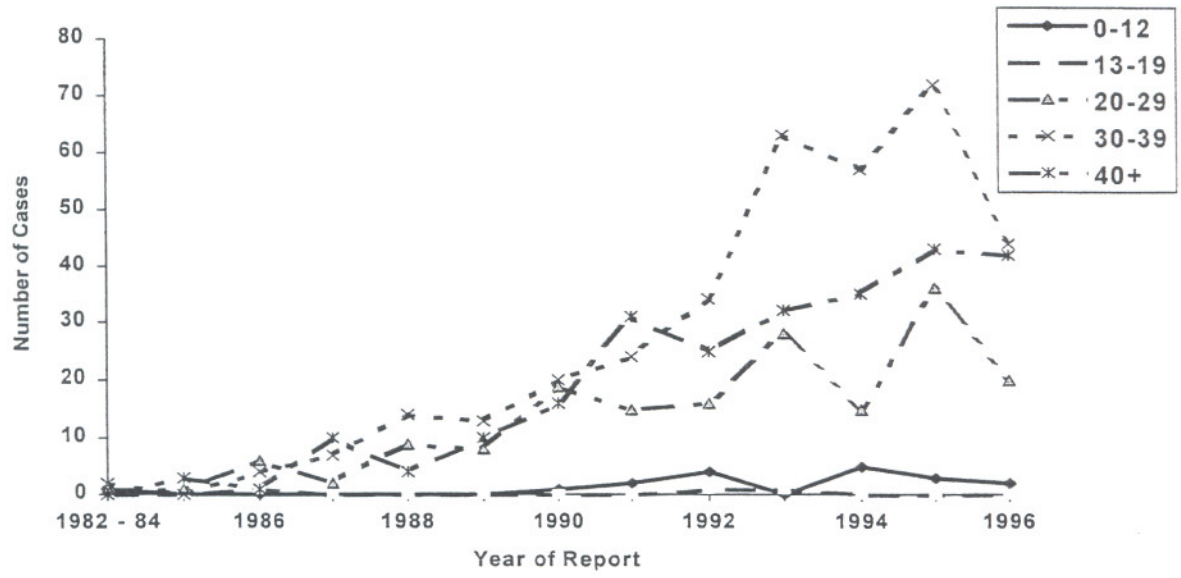


Figure 57

The Incidence of HIV Infections by Gender, Race and Age

There have been 801 individuals living in the Southwest Region of Virginia reported as HIV-infected. This is 9% of all HIV infection reports received. Figure 58 indicates that the number of reports have decreased yearly from a peak of 171 received in 1991 to 96 in 1996.

HIV CASES BY YEAR OF REPORT AND BY YEAR OF DIAGNOSIS, 1990 - 1996
VIRGINIA'S SOUTHWEST REGION

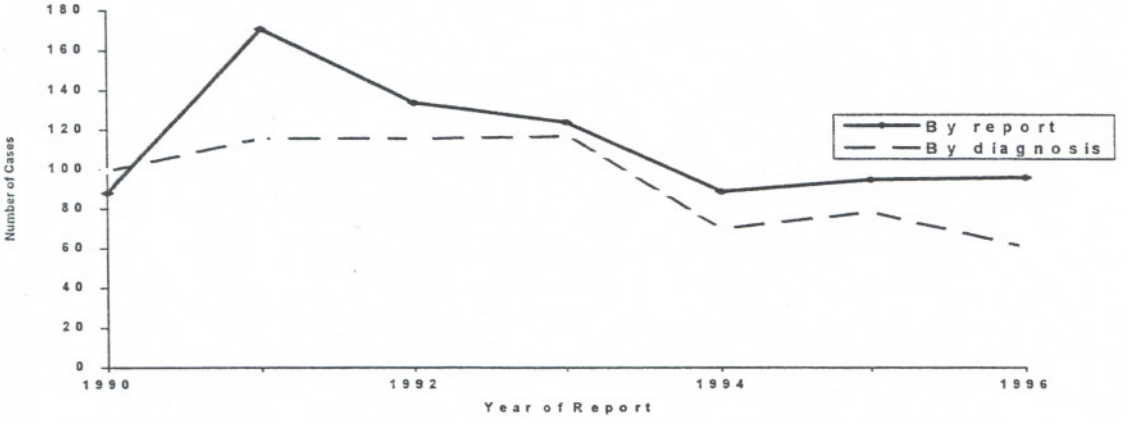


Figure 58

HIV CASES BY GENDER, BY YEAR OF REPORT, 1990 - 1996
VIRGINIA'S SOUTHWEST REGION
Numbers Reflect Percent of HIV Cases by Report Date

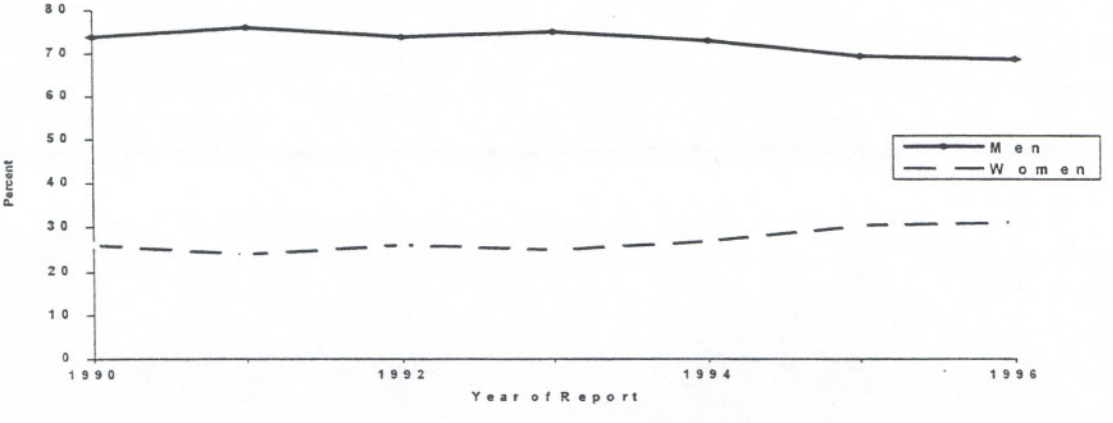


Figure 59

The gender and racial breakdowns for HIV infection reports are similar to the state as a whole. Males have been reported more frequently than females (males 588/801, 73%; females 213/801, 27%) but, as elsewhere, the proportion of reports attributed to women is increasing yearly (Figure 59).

Since 1993, non-Hispanic blacks have accounted for more reports than non-Hispanic whites (Figure 60). When the racial groups are separated on the basis of gender, it is seen that white males continue to be reported more frequently than black males (52% of all male reports versus 45%, respectively; 50% of 1996 male reports versus 47%, respectively) but, as elsewhere, non-Hispanic black females have been reported more often than non-Hispanic white females (66% of all female reports versus 33%, respectively; 67% of 1996 female reports versus 30%, respectively). The number of reports among all these groups is declining but at different rates. Since 1991, reports from the Southwest Region for HIV infection in white males have decreased by 55%, black males 40%, white females 50% and black females 13%. Persons of other races account for 1% of reports of HIV infection from the Southwest Region; Hispanics make up approximately 2%.

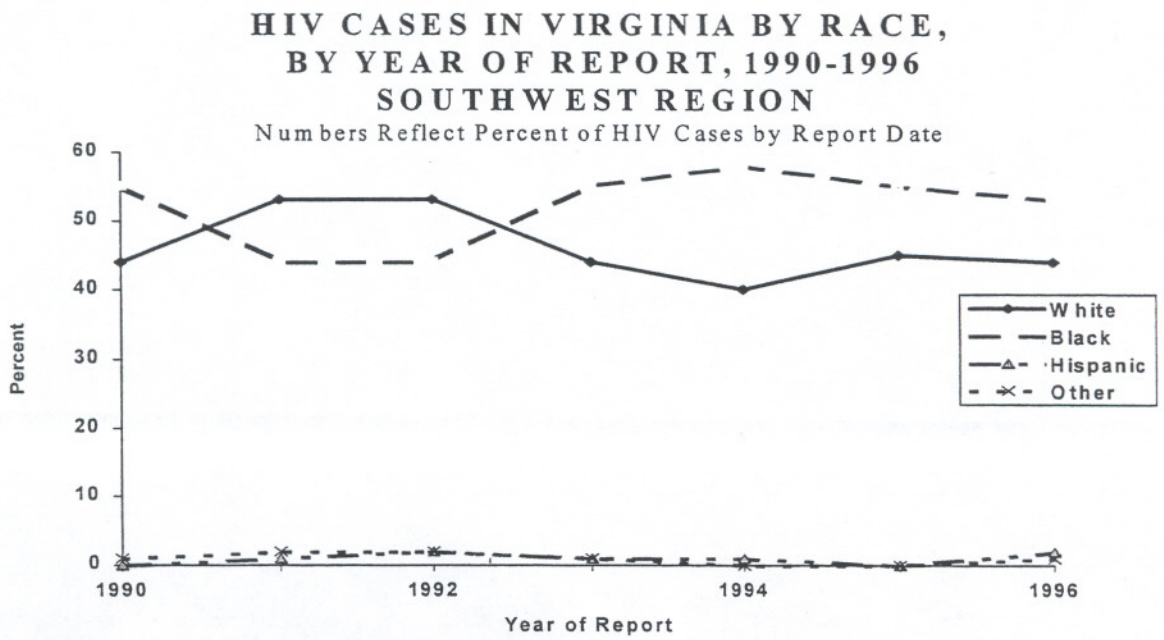


Figure 60

Looking at the number of HIV infection reports by age, a distribution similar to that seen in the state as a whole is seen with persons 20-29 and 30-39 years vying for the most reports yearly (Figure 61). The number of annual reports in individuals over 20 years of age decreased between 1991 and 1994 but since that time a slight increase is seen. It will be interesting to observe these trends in the future.

HIV CASES BY AGE, BY YEAR OF REPORT, 1990 - 1996
VIRGINIA'S SOUTHWEST REGION

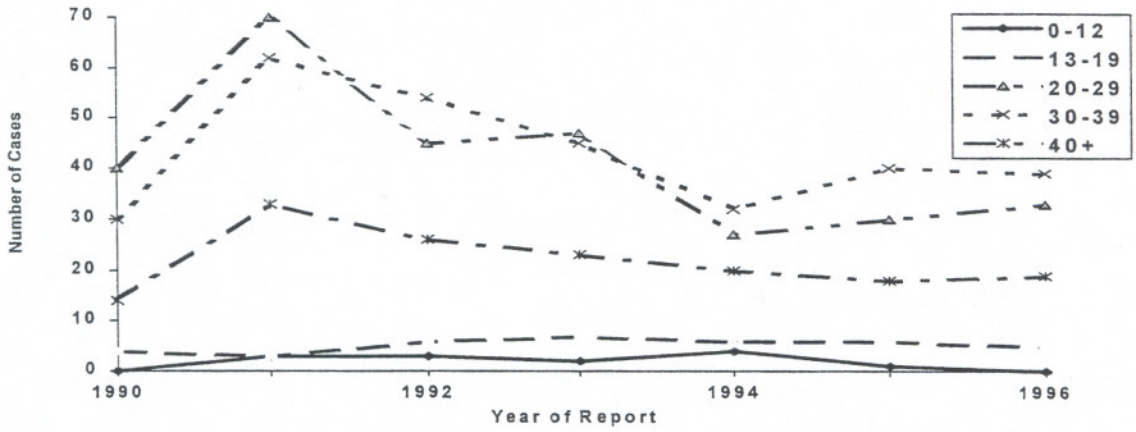


Figure 61

Mode of Transmission

The mode of transmission reported most frequently for persons with AIDS in the Southwest Region has been MSM (Figure 62). Except for the year 1987, when 53% of AIDS reports (10 out of 19) were attributed to exposure to blood products, MSM has been the most commonly reported risk for all years of AIDS reporting. IDU has been reported for 17% of all reports, heterosexual activity with an at-risk partner 14%, and MSM/IDU 7%. Looking at Figure 63, it can be seen that MSM has also been reported most often for HIV infection reports but the distribution is less distinct than with AIDS. During 1994, the other category of transmission mode was unusually high due to a number of cases for whom no identifiable risk was found. For persons reported with HIV in the Southwest Region, heterosexual activity with a partner at-risk has accounted for

20% of all reports, a higher percent than elsewhere in the state. Other modes of HIV transmission have been reported as follows: IDU 15%, MSM/IDU 6%, and multi-heterosexual activity 6%.

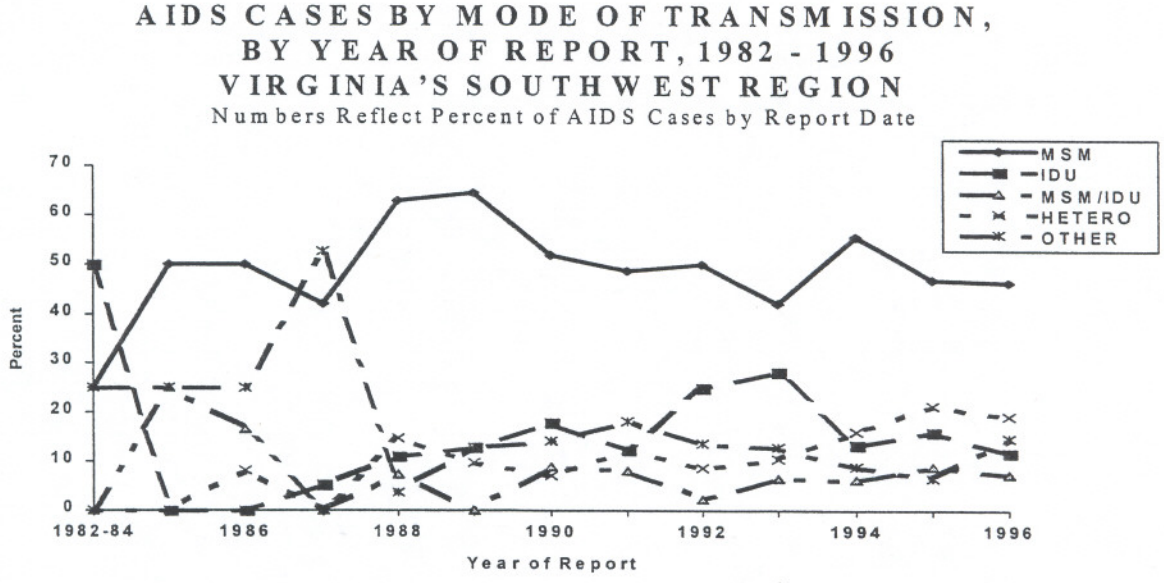


Figure 62

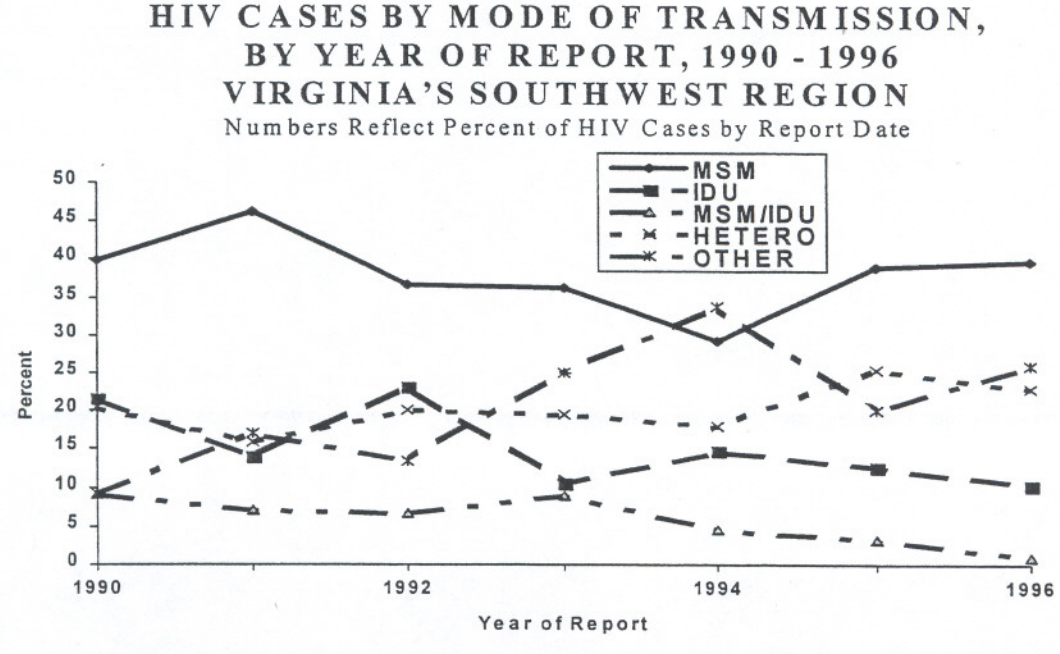


Figure 63

Persons Living with AIDS/HIV in the Southwest Region

As of December 31, 1996, there were 304 persons living with AIDS and 511 persons living with HIV infection and reported as living in the Southwest Region of Virginia. These numbers represent 38% of all persons who were diagnosed with AIDS while living in this region and 64% of those identified with HIV infection and not yet reported with AIDS. Gender breakdowns reveal a distribution similar to the state for persons living with AIDS (83% males, 17% females) and a slightly higher concentration of women for individuals who are HIV-infected (70% males, 30% females). Racially, there are more non-Hispanic whites and fewer non-Hispanic blacks living with AIDS or HIV infection in the Southwest Region (AIDS: whites 54% versus 43% statewide, blacks 44% versus 53% statewide; HIV infection: whites 45% versus 31% statewide, blacks 53% versus 66% statewide). Persons of Hispanic ethnicity make up less than 2% of either persons with AIDS or those infected with HIV and individuals of other races account for approximately 1% of both.

The 1996 prevalence rate for persons living with AIDS in the Southwest Region of Virginia was 24 per 100,000 persons, less than half the state rate (Map 2, page 42). The 1996 prevalence rate for persons living with HIV infection and reported from the Southwest Region was 39.7 per 100,000 region population. This was 57% lower than the statewide rate of 93.0 per 100,000 persons (Map 4, page 44).

Tables of persons living with AIDS and with HIV in the Southwest Region by age, race and sex can be found in the Appendix.

D. HIV/AIDS IN THE CENTRAL REGION OF VIRGINIA

The Incidence of AIDS by Gender, Race and Age

Since reporting began, there have been 2,147 persons reported with AIDS while living in the Central Region of Virginia; 24% of all AIDS reports received. The annual number of reports continually increased until reaching a peak of 477 reports in 1993. Since that time, the annual number has dropped. In 1996, 291 reports were received (Figure 64).

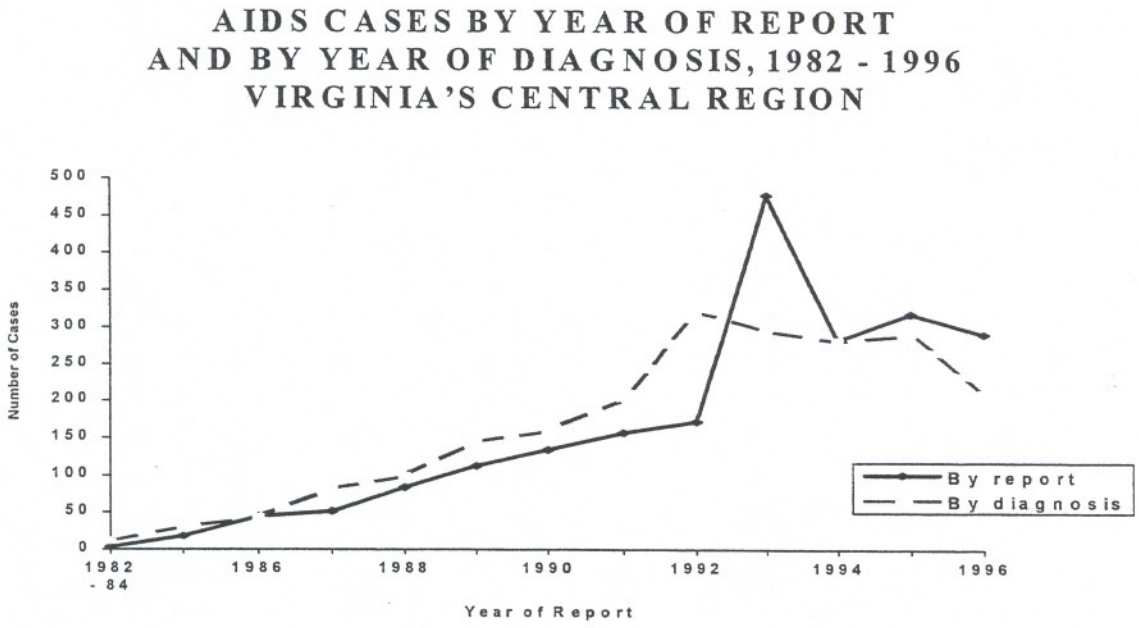


Figure 64

The proportion of reports in males and females in the Central Region is similar to that for the state as a whole. The percentage of females increased until the early 1990s but has remained stable since that time accounting for 18% of the reports in 1996 (Figure 65).

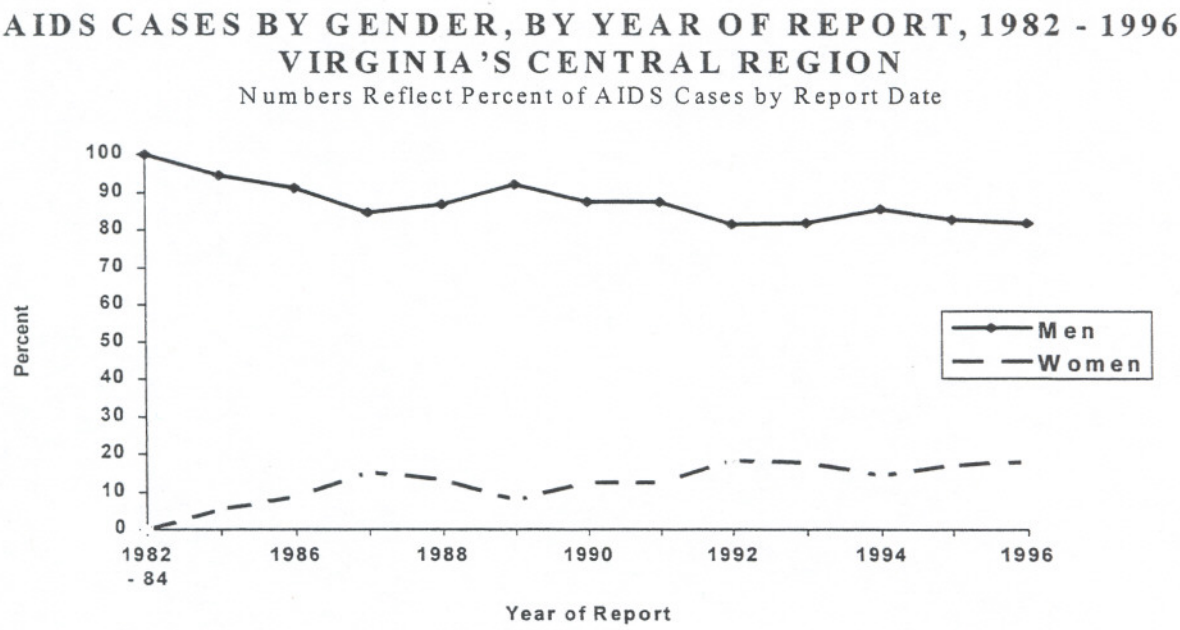


Figure 65

The majority of AIDS reports from Central Virginia have been in non-Hispanic blacks (67%) in contrast to the state as a whole where their overall representation has been 45% (Figure 66). As

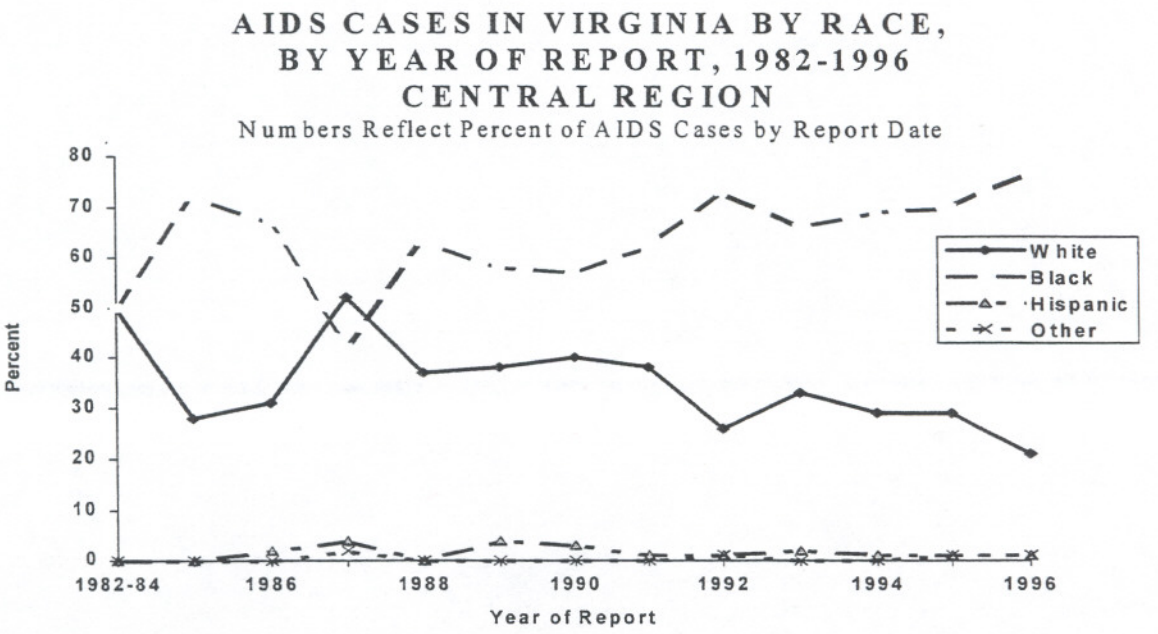


Figure 66

statewide, the proportion of reports in blacks appears to be increasing. During 1996, blacks accounted for 77% of all reports received, whites 21%, Hispanics 2% and persons of other races <1%. This increasing proportion is seen among both black males and females. Black females represented 94% of all reports received of AIDS in females from the Central Region during 1996 (50/53), and have accounted for 82% of all female reports received since reporting began (276/337) versus 69% statewide. Although the number of reports in both black men and women decreased in 1994 following a peak in 1993, the overall trend in yearly reports is still increasing -- 178% in men and 285% in women since 1990.

The distribution of AIDS reports by age is similar to that seen statewide (Figure 67). Individuals 30 to 39 years of age account for the majority of reports received (47%) followed by persons 40 years and older (33%), and those 20 to 29 (18%). As seen in Figure 67, reports in persons 20 to 29 years of age and persons over 40 increased during 1996 while those in the 30 to 39 year age group decreased.

AIDS CASES BY AGE, BY YEAR OF REPORT, 1982 - 1996
VIRGINIA'S CENTRAL REGION

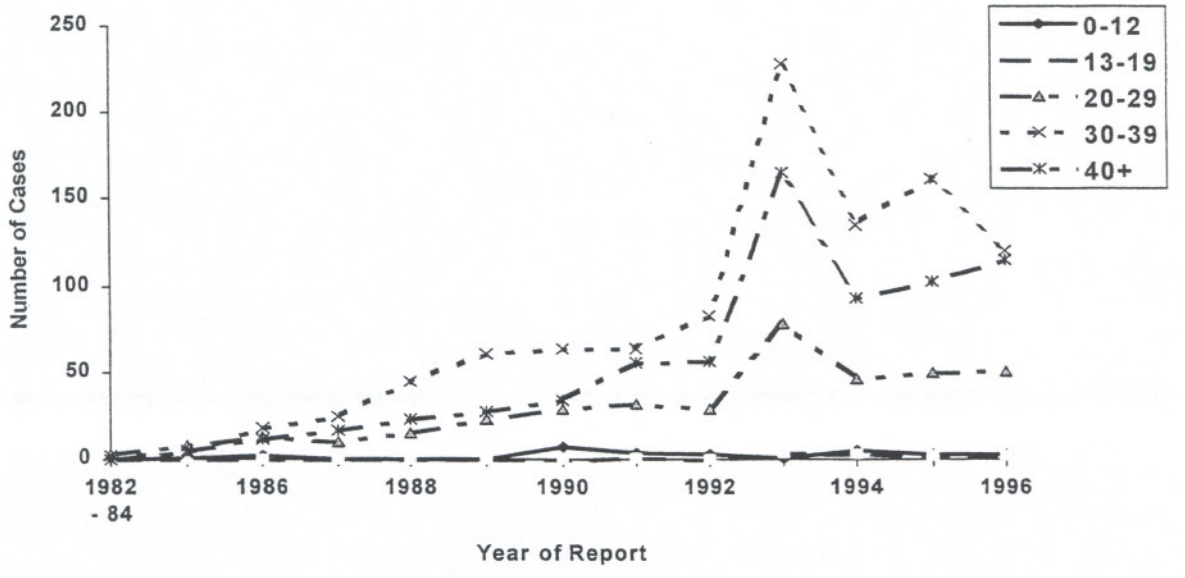


Figure 67

The Incidence of HIV Infections by Gender, Race and Age

Since reporting of HIV infections began, there have been 2,409 reports on persons living in the Central Region of Virginia at the time of HIV testing. These reports account for 26% of all that have been received. As seen in Figure 68, the number of yearly reports received has been somewhat erratic, but the overall trend since 1991 has been a decrease. This seems to be confirmed by the decreasing trend in the number of cases diagnosed per year (Figure 68).

HIV CASES BY YEAR OF REPORT AND BY YEAR OF DIAGNOSIS, 1990 - 1996
VIRGINIA'S CENTRAL REGION

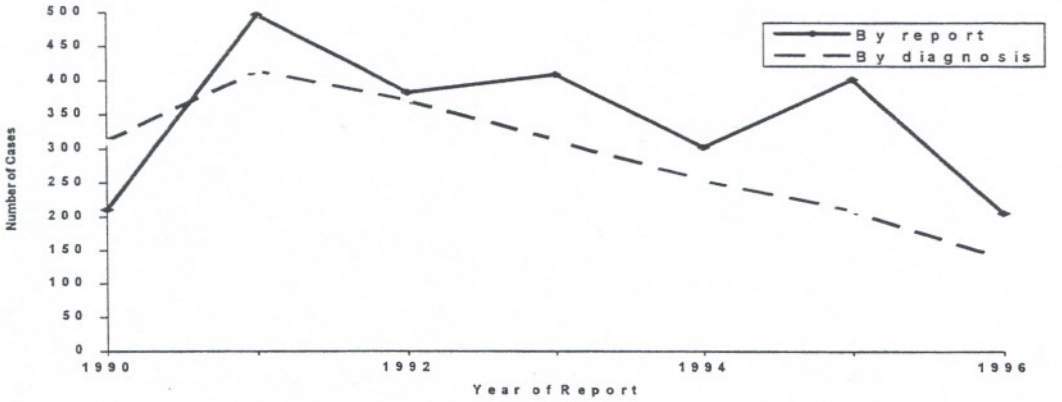


Figure 68

As with AIDS, the distribution by gender is similar to that of the state as a whole (76% males, 24% females) (Figure 69). This is not the case with race distributions. While non-Hispanic blacks account for 65% of reports of HIV infection statewide, in the Central Region of Virginia they have been 75% of all reports received and have continuously accounted for this high proportion (Figure 70). This increased proportion is seen among males (72% of males in Central Region, 61% statewide) as well as females (85% of females in the Central Region, 76% statewide). Non-Hispanic whites have made up 23% of all reports received (26% of male reports, 14% of female reports) and Hispanics and persons of other races account for <2%.

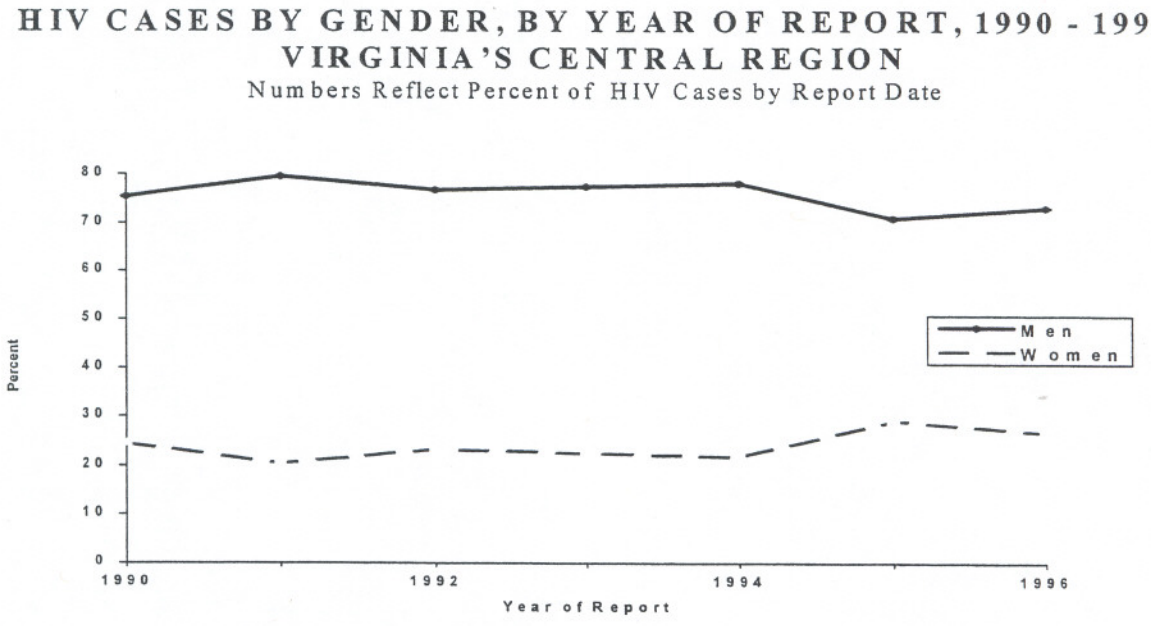


Figure 69

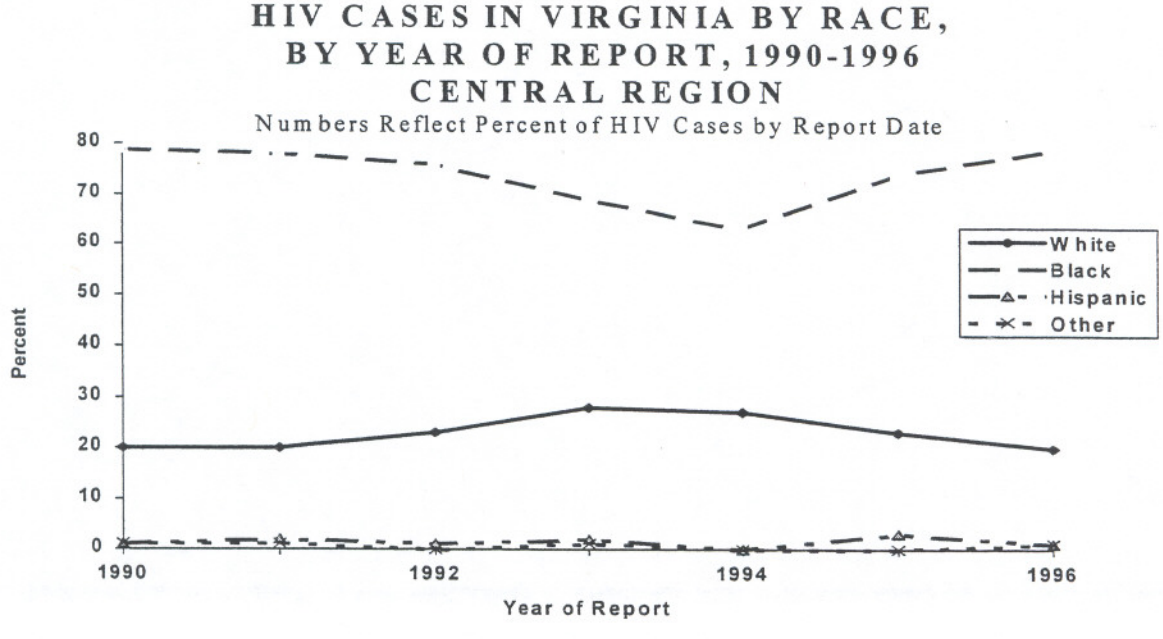


Figure 70

The age distribution for HIV infection reports in the Central Region of Virginia is seen in Figure 71. As elsewhere in Virginia, 30 to 39 year olds have been reported the most frequently throughout reporting (40% of HIV reports), followed by individuals 20 to 29 years (33%) and

persons over 40 (23%). Adolescents have accounted for 2% of all reports from this region and children < 13 1%.

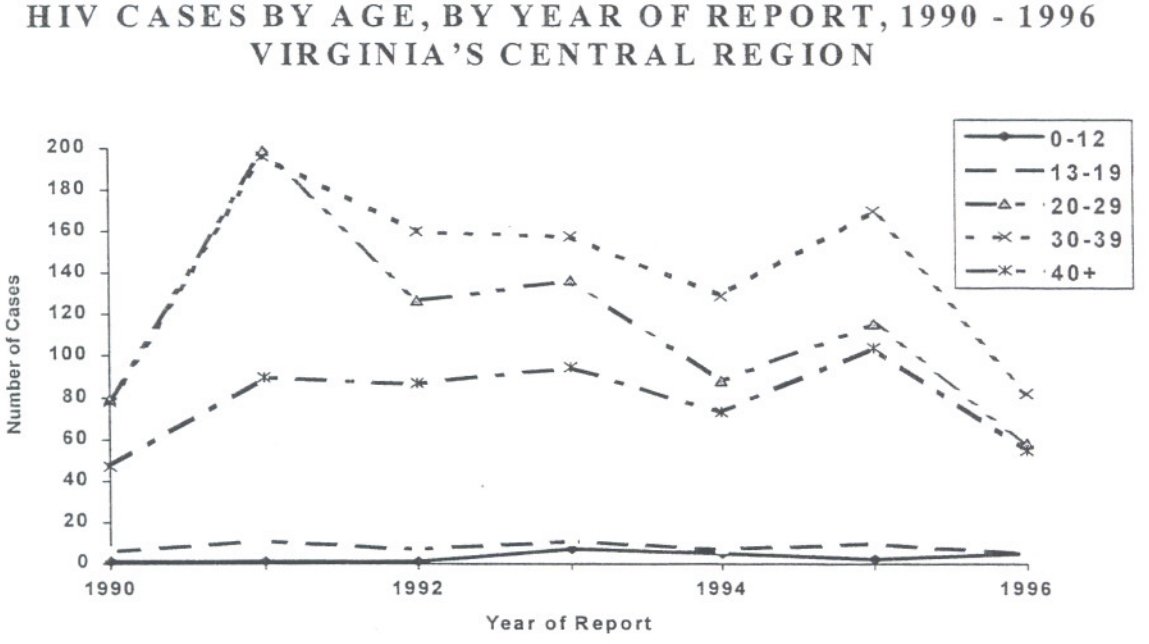


Figure 71

Mode of Transmission

The MSM mode of transmission has been the most commonly reported risk associated with AIDS cases in the Central Region (46% of all reports), but to a lesser degree than statewide (56% of all reports), and the frequency of reporting decreased to only 36% of reports in 1996 (Figure 72). The frequency of reporting of the MSM risk behavior for HIV infection reports is similar to the state (35% of reports in the Central Region, 36% statewide) (Figure 73). IDU, the second most commonly reported risk factor, has been reported more often in the Central Region than statewide, whether for AIDS or HIV infections (25% of Central Region AIDS reports, 18% statewide; 25% of Central Region HIV infection reports, 21% statewide) but the overall trend appears to be a decrease in new IDU-related HIV reports, with a distinct drop in frequency in 1996. The reporting of heterosexual activity with a partner at risk for AIDS has increased almost 700% since 1990 (7 reports in 1990, 55 reports in 1996). This behavior has consistently accounted for approximately 15% of all reports of HIV infection until 1996 when it was the risk

reported for 24% of reports. This increased proportion in 1996 was due to a decrease in other risk behaviors, though, as opposed to an actual increase in the number of reports.

AIDS CASES BY MODE OF TRANSMISSION, BY YEAR OF REPORT, 1982 - 1996 VIRGINIA'S CENTRAL REGION

Numbers Reflect Percent of AIDS Cases by Report Date

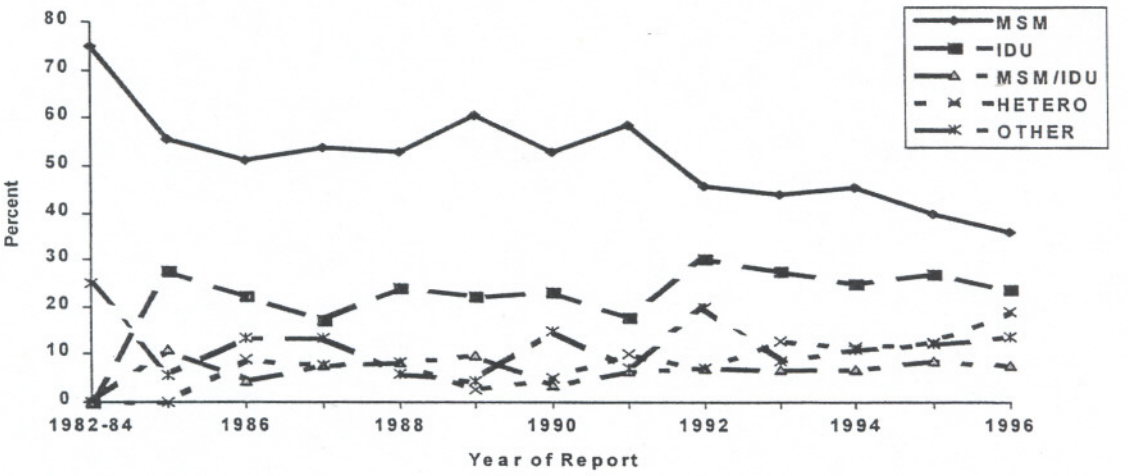


Figure 72

HIV CASES BY MODE OF TRANSMISSION, BY YEAR OF REPORT, 1990 - 1996 VIRGINIA'S CENTRAL REGION

Numbers Reflect Percent of HIV Cases by Report Date

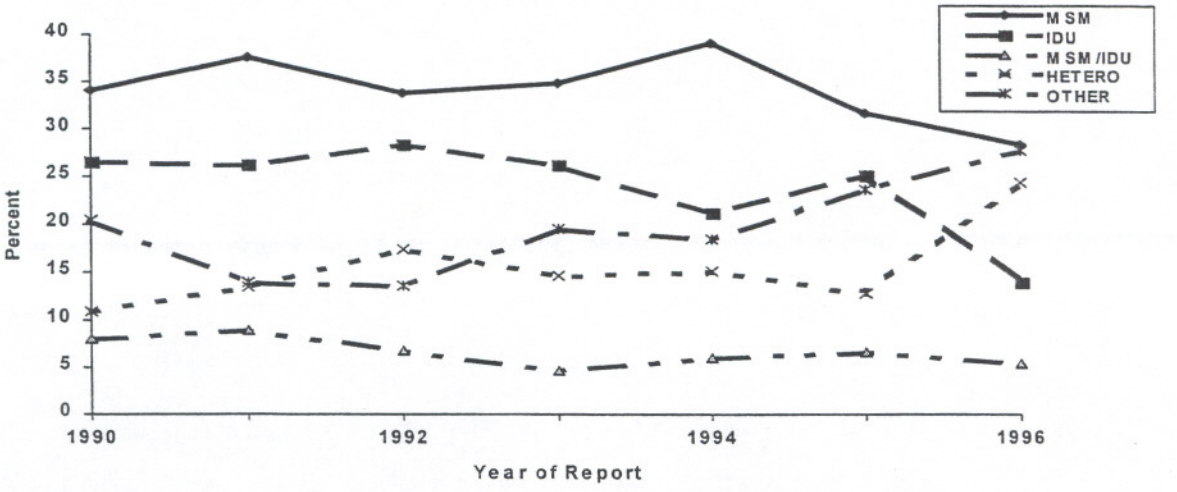


Figure 73

Persons Living with AIDS/HIV in the Central Region

As of December 31, 1996, there were 873 persons with AIDS and 1,594 persons with HIV infection who were reported as living in the Central Region of Virginia. These numbers represent 41% of all those reported with AIDS and 66% of those reported with HIV infection from this area. The 1996 prevalence rate for those living with AIDS in this region was 76.1 cases per 100,000 population in the Central Region. This was the highest of any region in the state and 44% greater than the statewide rate (Map 2, page 42). The 1996 prevalence rate for persons living with HIV was 138.9 persons per 100,000 Central Region population, the second highest rate in the state and 49% greater than the statewide prevalence rate of 93.0 per 100,000 persons (Map 4, page 44).

The distribution of both of these groups by gender is similar to the state as a whole (83% of those with AIDS are males, 75% of those with HIV infection are males). Racially, the distribution is skewed toward non-Hispanic blacks as seen with reports. In the Central Region, 69% of those living with AIDS are non-Hispanic blacks and 76% of those infected with HIV are black, compared to 53% and 66%, respectively, statewide.

The age distribution for those living with AIDS or HIV infection in the Central Region follows the distribution of reports and is similar to that seen statewide.

Tables of persons living with AIDS and with HIV infection in the Central Region by age, race and sex can be found in the Appendix.

E. HIV/AIDS IN THE EASTERN REGION OF VIRGINIA

The Incidence of AIDS by Gender, Race and Age

There have been 2,640 reports of AIDS received from the Eastern Region of Virginia since 1982, 29% of all reports received in Virginia. The pattern of AIDS reporting from the Eastern Region of Virginia is different than that from other regions. In contrast to other areas, the number of reports of AIDS received rose continuously until 1996 when it dropped from the 453 reports received in 1995 to 372 (Figure 74).

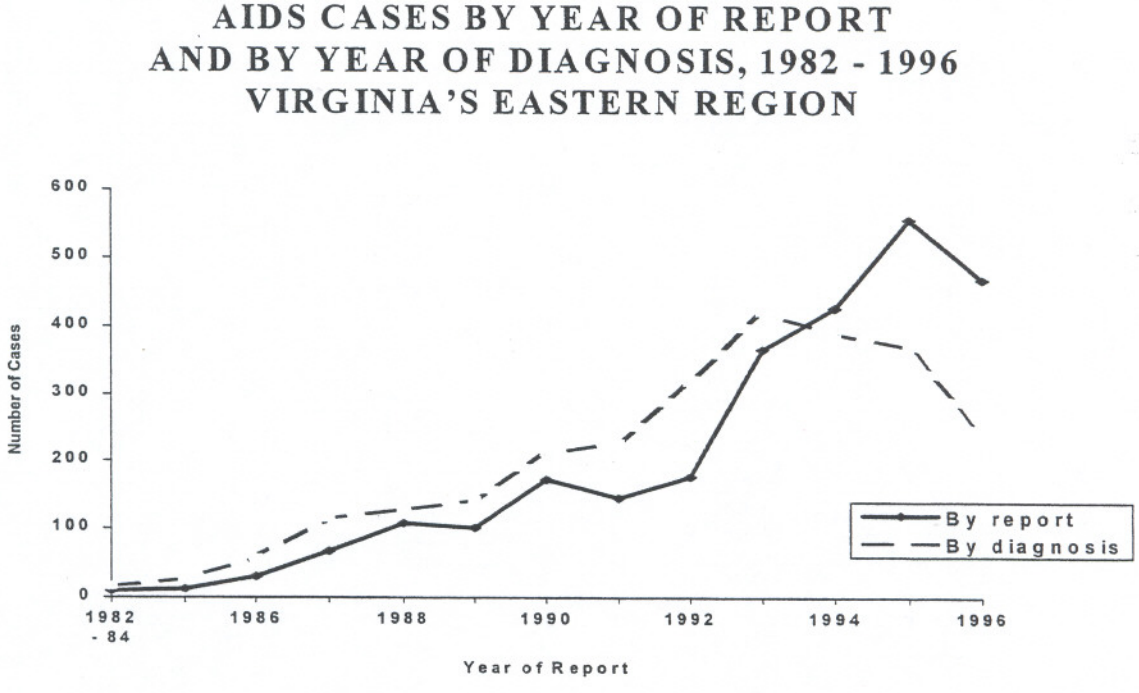


Figure 74

As elsewhere, males account for the majority of reports (83%) but the number of reports in women continues to increase in number and proportion and accounted for 21% of reports received in 1996 (Figure 75).

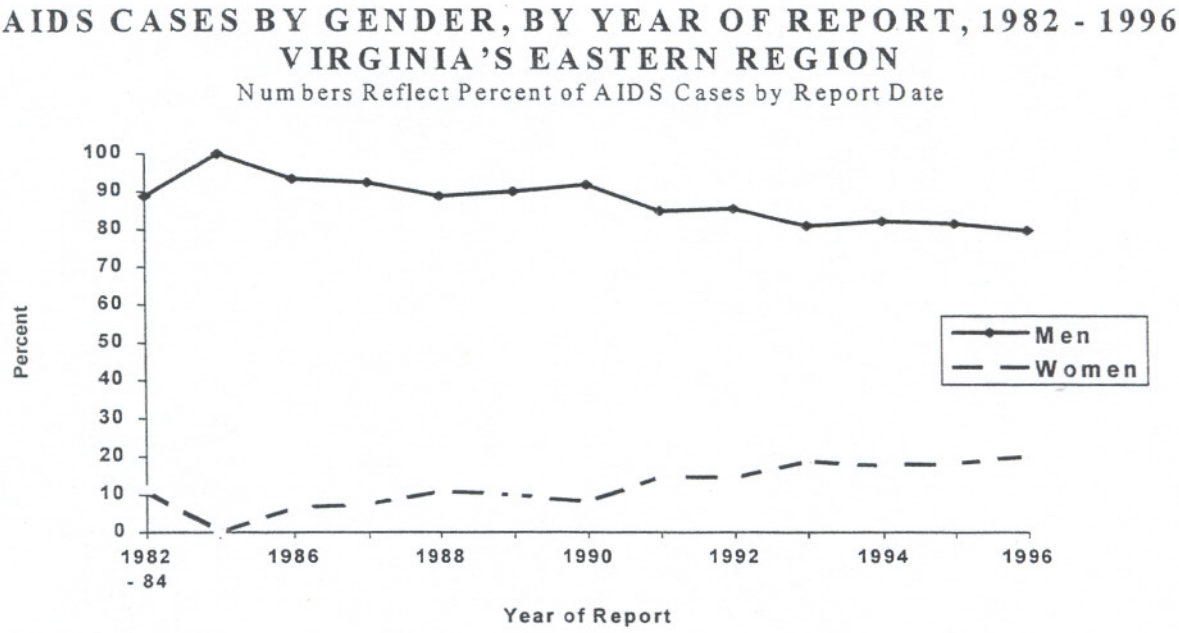


Figure 75

Racially, the distribution of Eastern Region reports more closely resembles the Central Region with a higher proportion of AIDS reports among non-Hispanic blacks than among any other

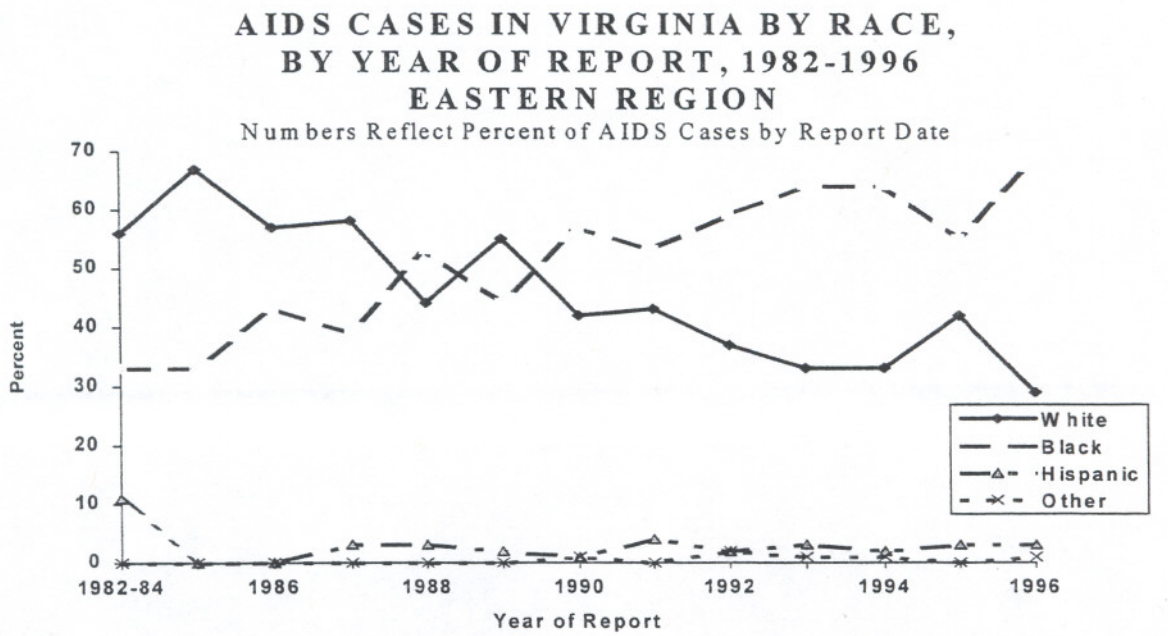


Figure 76

racial/ethnic group (59% versus 45% statewide) (Figure 76). Although whites made up the majority of yearly reports in the early 1980s, non-Hispanic whites have accounted for only 38% of all reports in this region versus 52% statewide. Hispanics and persons of other races have made up 3% and <1% of reports, similar to statewide. Both blacks and Hispanics are more frequently represented among females than males, accounting for 74% and 4% of female reports, respectively. Reports in non-Hispanic whites living in Eastern Virginia decreased by 43% between 1995 and 1996, but this trend was not seen with either blacks or Hispanics.

Age group breakdowns are similar to those seen statewide and have maintained a consistent relationship throughout reporting (Figure 77). Persons 30 to 39 years of age have accounted for 46% of AIDS reports from the Eastern Region, followed by those over 40 years (30%), persons between 20 and 29 (21%), children <13 (2%), and adolescents (<1%).

AIDS CASES BY AGE, BY YEAR OF REPORT, 1982 - 1996
VIRGINIA'S EASTERN REGION

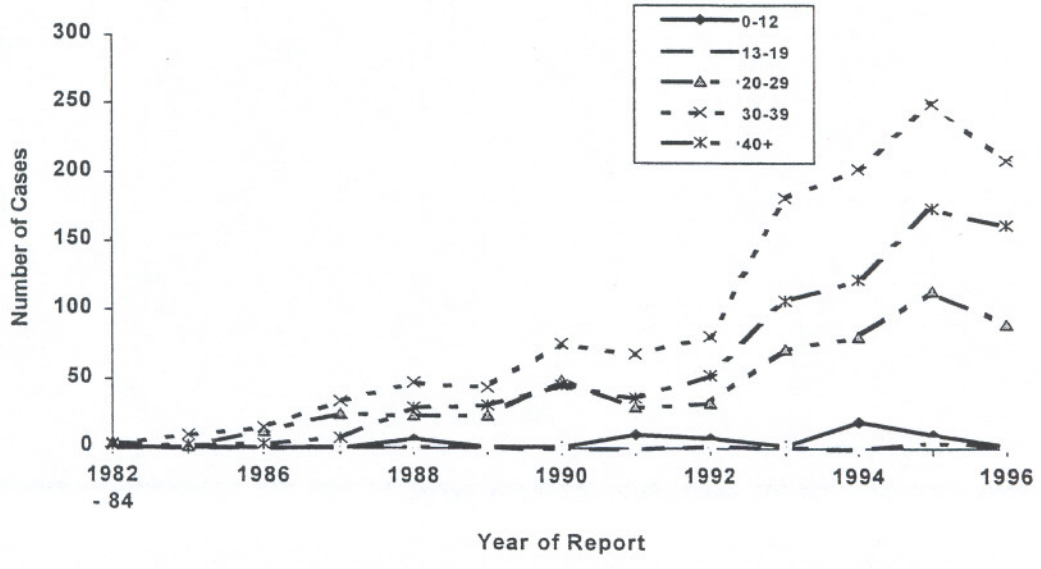


Figure 77

The Incidence of HIV Infections by Gender, Race and Age

Reports of HIV infections from the Eastern Region have accounted for over 40% of all HIV infections reported in the state for whom region of residence was known (3694/9209). As seen in Figure 78, the annual number of reports per year has fluctuated but appears to be decreasing overall.

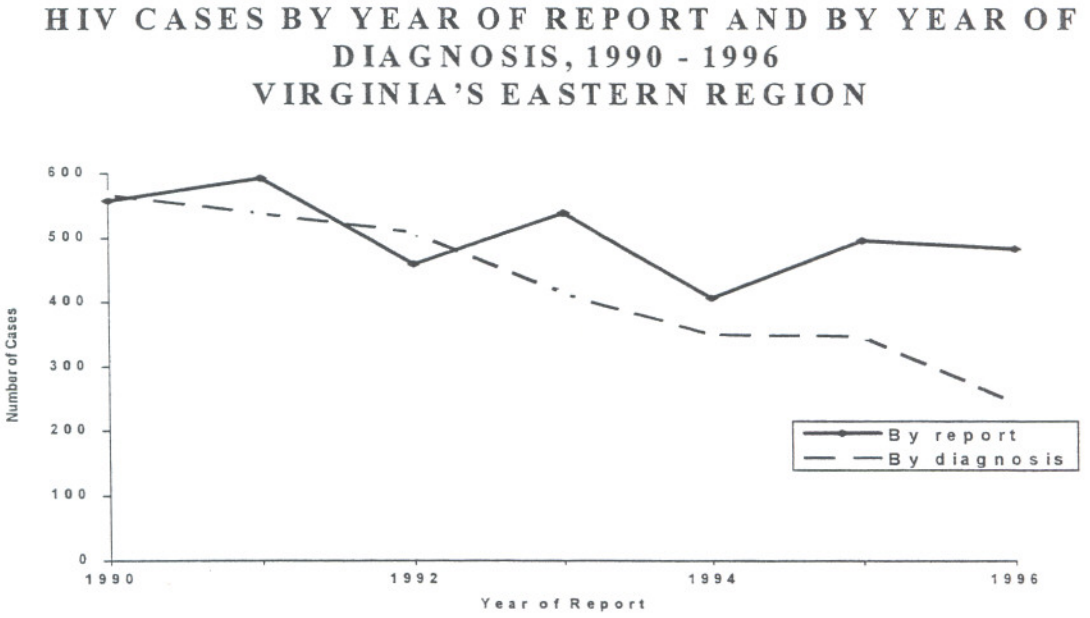


Figure 78

The proportion of reports in women has been increasing in the Eastern Region, as elsewhere (Figure 79), and while the number of reports in men decreased in 1996 (377 in 1995, 340 in 1996) those in women continued to increase (119 in 1995, 143 in 1996). In 1996, reports in females accounted for 30% of all HIV infection reports received.

As with AIDS, blacks are the most frequently represented racial/ethnic group among reports of HIV infection from the Eastern Region (69% of all reports versus 61% statewide) (Figure 80). Whites account for 27%, Hispanics 2% and persons of other races >1%. Among females, blacks and Hispanics are even more commonly represented, accounting for 79% and 3%, respectively, of all reports on females from the Eastern Region received by December 31, 1996.

HIV CASES BY GENDER, BY YEAR OF REPORT, 1990 - 1996
VIRGINIA'S EASTERN REGION

Numbers Reflect Percent of HIV Cases by Report Date

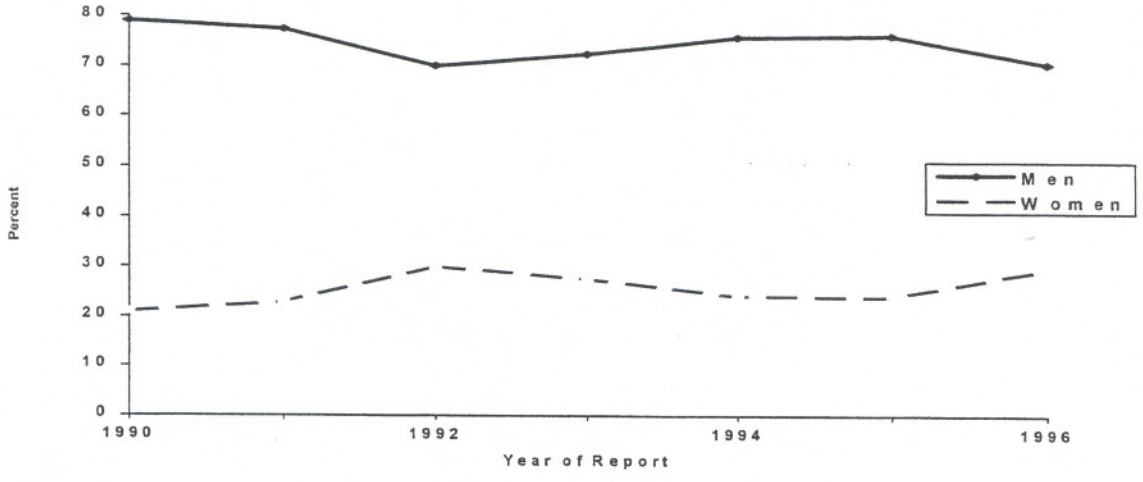


Figure 79

HIV CASES IN VIRGINIA BY RACE, BY YEAR OF REPORT, 1990-1996
EASTERN REGION

Numbers Reflect Percent of HIV Cases by Report Date

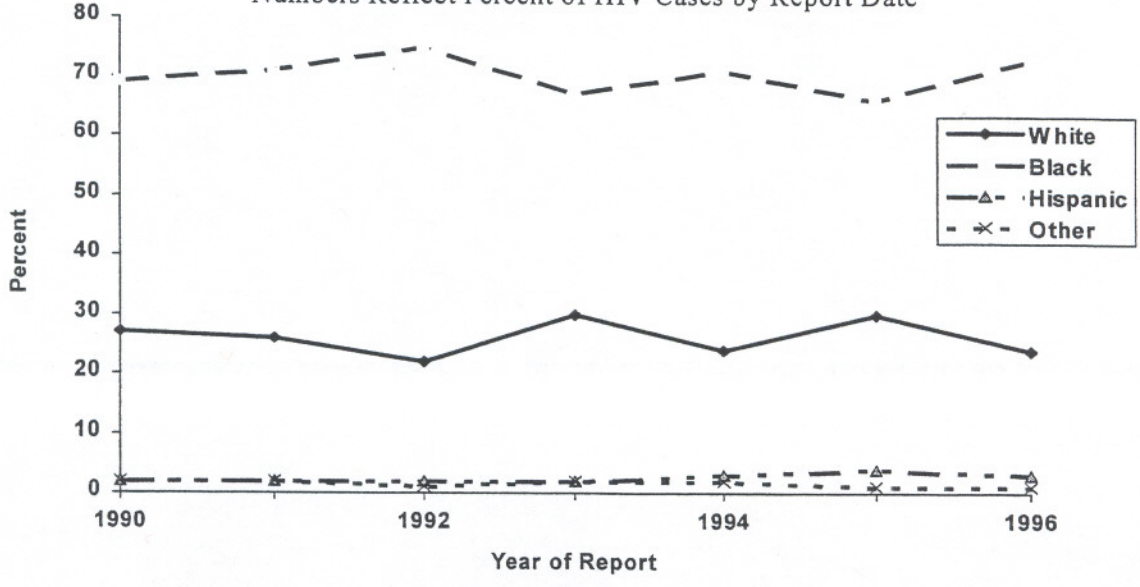


Figure 80

If HIV infection reports are examined by age, it is seen that in the Eastern Region, persons 20 to 29 years of age are just as likely to be reported as persons 30 to 39 years of age (each group representing 39% of reports received) (Figure 81). Individuals over the age of 40 have been

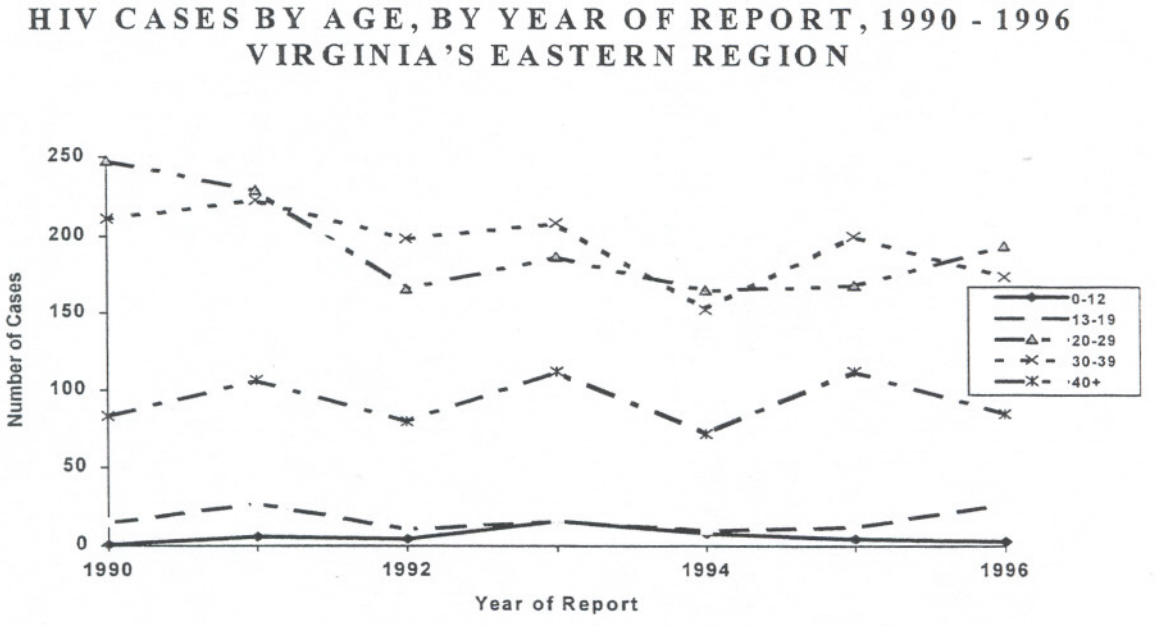


Figure 81

reported 18% of the time and the overall trend in reporting of persons in this group appears to be stable. Adolescents between the ages of 13 and 19 years more than doubled in number of reports during 1996 (12 reports in 1995, 27 reports in 1996) and increased to 6% of all reports received.

Mode of Transmission

The most commonly reported mode of transmission for AIDS cases living in the Eastern Region of the state has been MSM, accounting for 53% of all AIDS reports since reporting began, although it has decreased in frequency from 63% of all reports in 1990 to 42% in 1996 (Figure 82). While MSM has decreased, IDU and heterosexual activity with an at-risk partner have both increased. IDU represents 19% of all AIDS reports received but has jumped from 16% (28/173 reports) in 1990 to 24% (110/468 reports) in 1996. An even greater increase is seen with heterosexual activity which increased from 3.5% of all reports in 1990 (6/173) to 18% in 1996

(82/468). Some of this increase can be attributed to the growth in reports among women but this behavior is being more frequently reported among men, also.

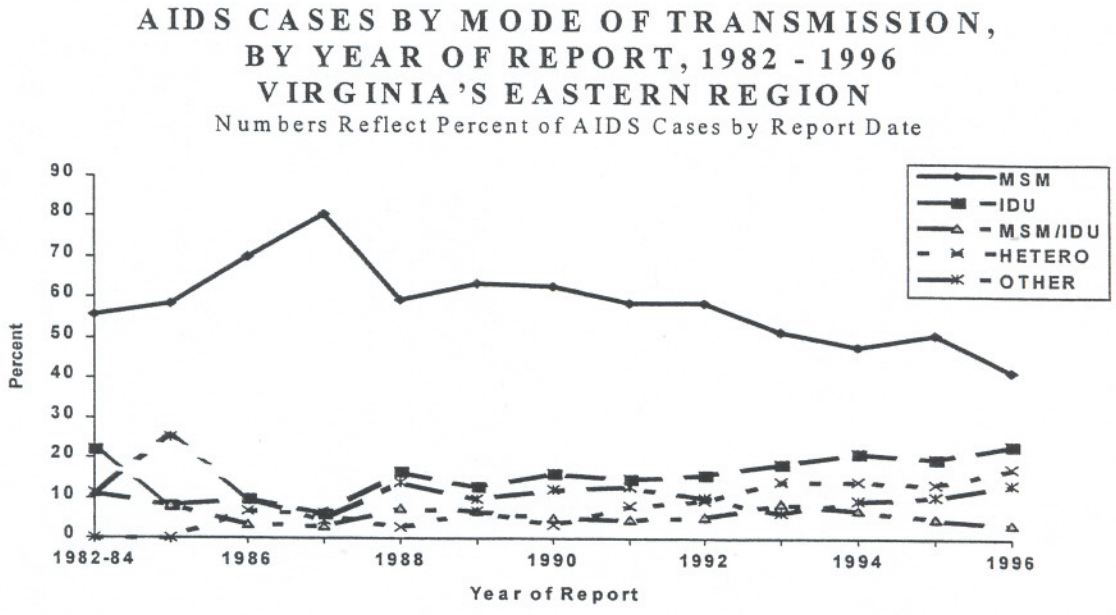


Figure 82

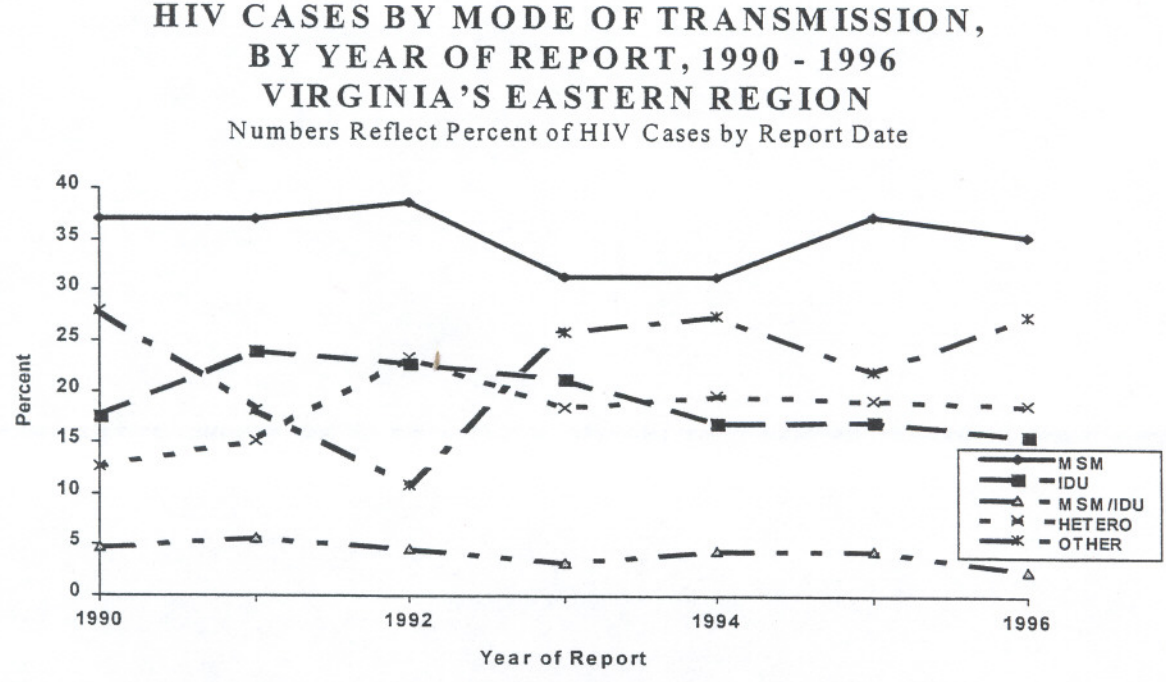


Figure 83

MSM remains the most commonly reported mode of transmission among HIV infections from the Eastern Region (Figure 83), and has accounted for 36% of all reported infections. Heterosexual activity with an at-risk partner has accounted for 17% of all reports and has not varied significantly in number of reports since 1991. IDU has been the risk associated with 19% of all HIV infection reports but has decreased in number since reaching a high of 142 reports in 1991. Multi-heterosexual activity (included in the other mode grouping on Figure 83) has been reported for 9% of all HIV infection reports, a higher proportion than other regions in the state.

Persons Living with AIDS/HIV in the Eastern Region

As of December 31, 1996, 1,089 of 2,640 persons with AIDS (41%) and 2,477 of 3,694 with HIV infection (67%) who were identified as living in the Eastern Region of Virginia were alive. These figures represent 31% of those living with AIDS and 40% of those with HIV infection throughout the state. The 1996 prevalence rate for persons reported from the Eastern Region and living with AIDS was 64.1 per 100,000 population in that region, 21% higher than the statewide rate (Map 2, page 42). For persons living with HIV, the 1996 prevalence rate was the highest in the state, 145.7 persons per 100,000 population (Map 4, page 44). This rate was 57% higher than the statewide rate of 93.0 per 100,000 persons.

The gender breakdown reveals that there is a higher proportion of females living with AIDS from this region (21% versus 17% statewide) but a similar distribution among those with HIV infection (26% females versus 27% statewide). Racially, there is a higher concentration of blacks among those living with AIDS (62% in the Eastern Region versus 53% statewide) and HIV (69% versus 66% statewide) and a lower proportion of non-Hispanic whites (35% versus 43% statewide for AIDS; 27% versus 31% statewide for HIV infection). Hispanics account for 3% of those living with AIDS and >2% of those HIV-infected while persons of other races are <1% and 2%, respectively.

The age distribution of AIDS infections is similar to that statewide except that 3% of those living with AIDS are children <13 years versus <2% statewide. This may be related to the higher prevalence rate of HIV infection in women of the Eastern Region identified through the study of

women of childbearing age (1.8 per 1,000 women versus 1.2 per 1,000 women statewide) (See Section III: Special Populations). When individuals infected with HIV are looked at by age, a higher proportion of individuals between 13 and 29 years of age is seen (4% are adolescents and 43% are between 20 and 29 years versus 3% adolescents and 38% persons 20 to 29 years, statewide). Forty-six percent of all adolescents reported as living with HIV in Virginia have been from the Eastern Region.

Tables of persons living with AIDS and with HIV infection in the Eastern Region by age, race and sex can be found in the Appendix.

SECTION III: SPECIAL POPULATIONS

A. HIV/AIDS IN WOMEN

The AIDS epidemic began primarily as a disease of men but has spread to women and, while the incidence is declining among the male population, it is unclear as to whether or not the peak for women has yet been reached. The first report of AIDS in a female in Virginia was received in 1983 and women made up less than 10% of annual reports until 1991. Since that time reports of AIDS in women have increased disproportionately to those in men. In 1996, they accounted for 18% of AIDS reports received (221/1233), an increase of 199% over the number of reports in 1991 (74 reports) (Figure 84).

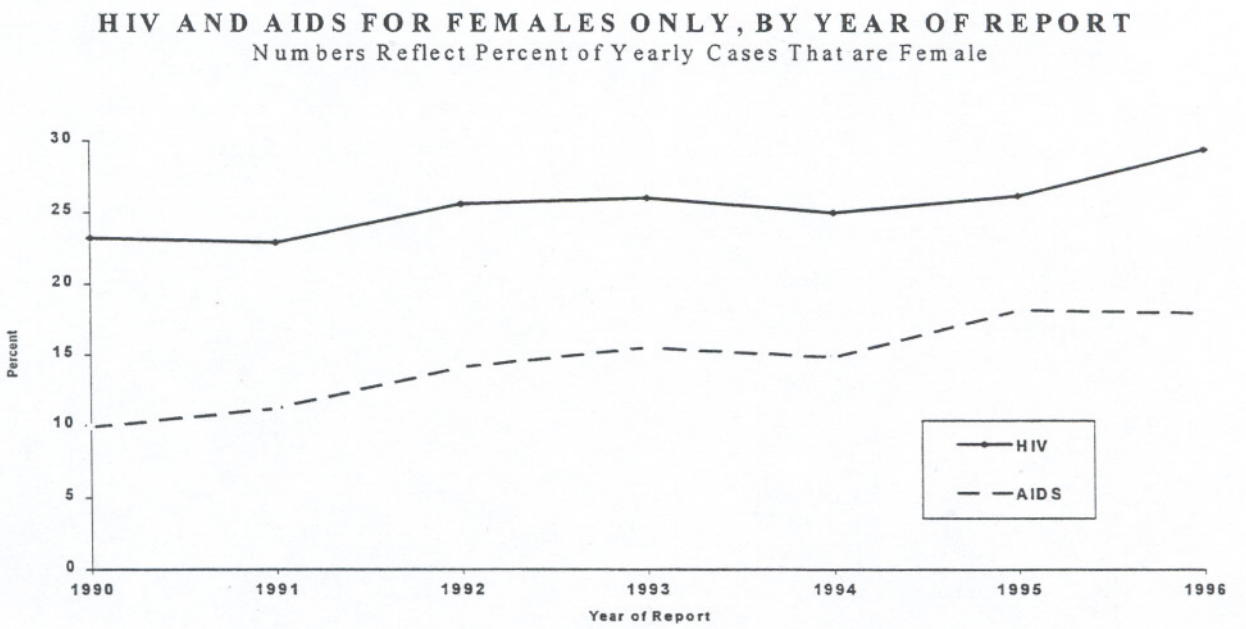


Figure 84

During that same time period, reports for men increased only 72% (589 in 1991, 1012 in 1996). The annual incidence rate for AIDS in women in Virginia increased from 2.0 per 100,000 females in 1990 to 6.5 per 100,000 in 1996 (Figure 85).

HIV AND AIDS INCIDENCE PER 100,000 FEMALES BY YEAR OF REPORT

Numbers Reflect Reported Cases per 100,000 Females

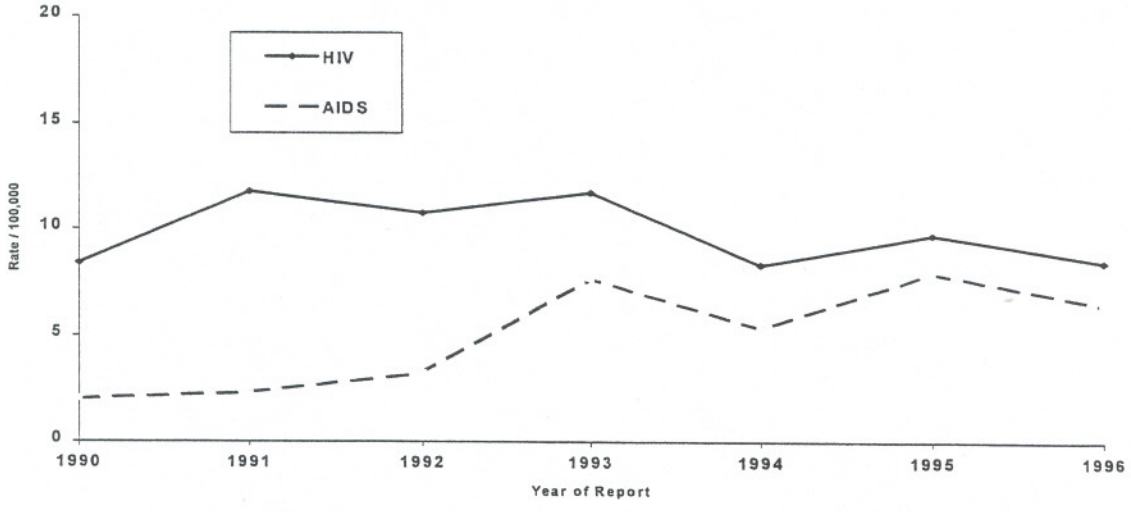


Figure 85

The delay in effect of the HIV/AIDS epidemic on women is also seen in the pattern of HIV infection reports among females. During the last half of 1989, when reporting for HIV first began, reports of HIV in women made up only 12% of those received. Since that time, females have accounted for a minimum of 23% and in 1996 made up 30% of HIV reports received (290/984) (Figure 84). In addition, the number of new infections in males has been generally decreasing since 1991 but no clear decreasing trend in females can be seen (Figure 86). Between 1990, the first full year of HIV reporting, and 1996, reports in males decreased over 21% (881 reports in 1990, 694 in 1996), while reports of HIV in females increased 9% (266 reports in 1990, 290 reports in 1996). The annual incidence rate reached a high of 11.8 per 100,000 females in 1991, remained relatively stable through 1993 but was down in 1996, to 8.5 new HIV infections per 100,000 females (Figure 85).

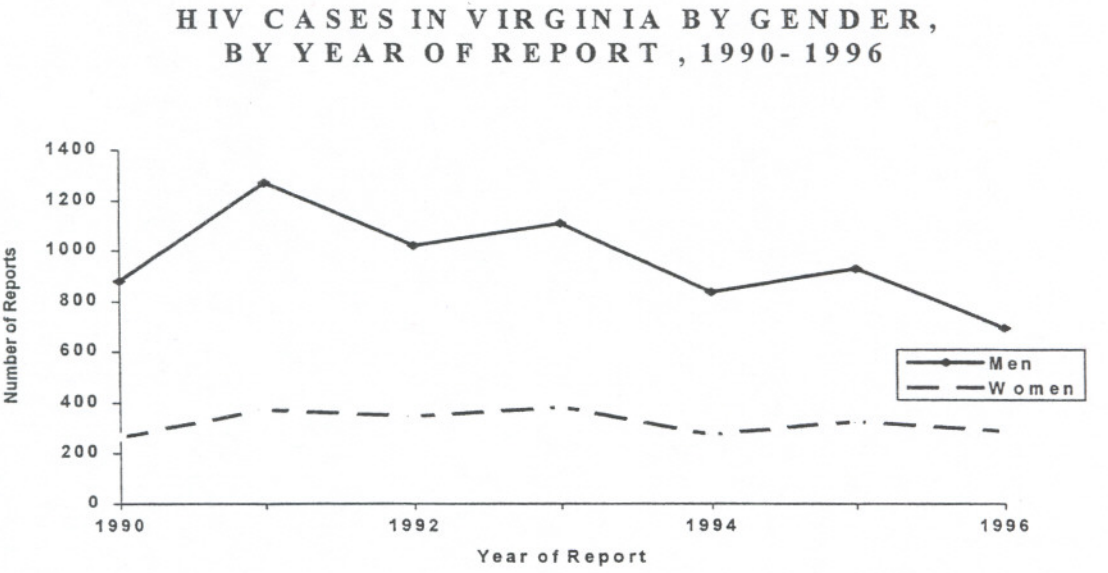


Figure 86

The average age at which women report their first positive HIV test is 31.1 years, mid-range of the childbearing years, versus 34.1 years in men. When HIV-positive cases are examined by sex and age group, it is seen that 44% of females are reported before the age of 30 years versus only 33% of males (Figure 87).

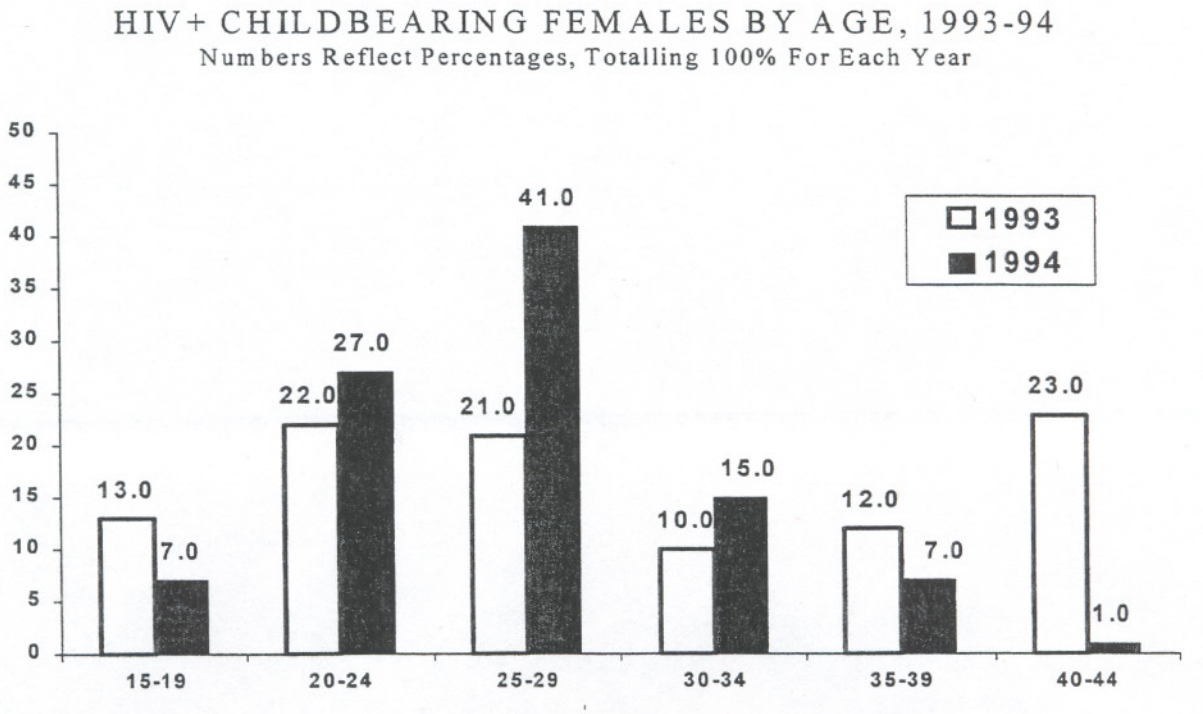


Figure 87

In 1996, females infected with HIV were 14 times more likely to be non-Hispanic black than non-Hispanic white (Relative Risk 14.2, Confidence Intervals 10.6-19.0, $p < 0.01$). Non-Hispanic black females have accounted for 76% of all HIV infection reports and the distribution has not changed since reporting began. Incidence rates for black females in 1996 were 31.9 new infections per 100,000 black females compared to rates of 2.3 per 100,000 white females, 3.3 per 100,000 females of other races, and 9.3 per 100,000 Hispanic females (Figure 88).

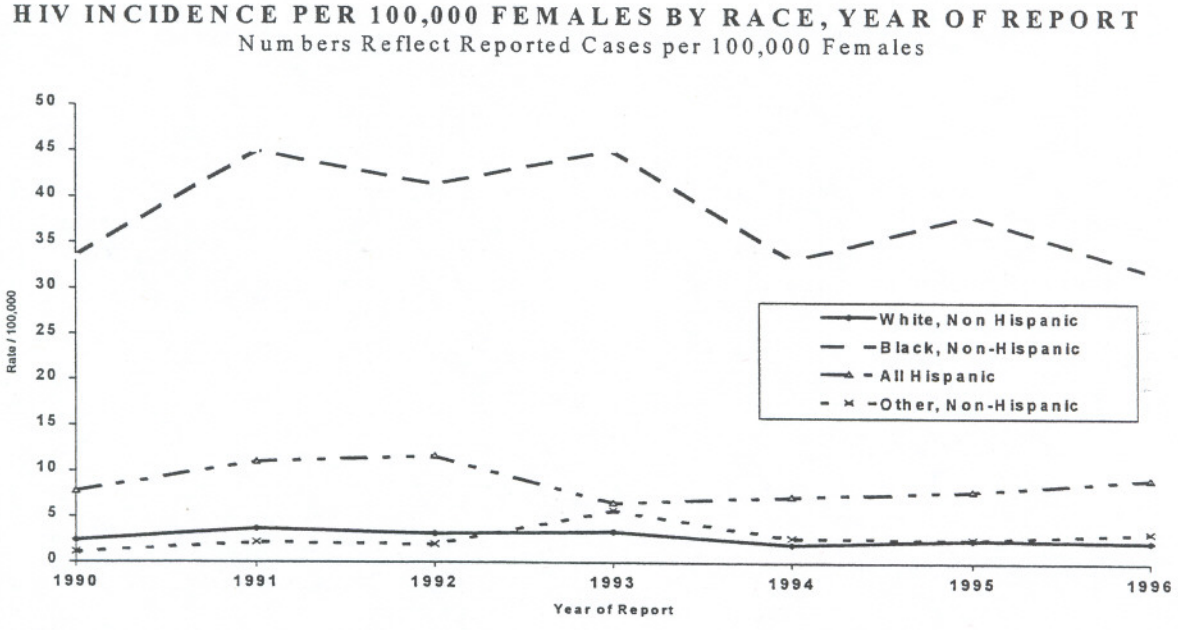


Figure 88

The modes of transmission in women have remained relatively consistent throughout the period of AIDS and HIV infection reporting and do not vary much by race. Heterosexual activity with an at-risk partner accounted for more than 40% of all female AIDS and HIV infections in non-Hispanic blacks, non-Hispanic whites and Hispanics. Among the 22 females of other races it has been reported in 36% of HIV infection reports.

Table 8. HIV Transmission Modes in Females by Age Group

Age Group (years)	IDU (%)	Heterosexual Activity (%)	Multi-Heterosexual (%)	Blood Product (%)	NIR (%)
13-19	11 (7.6)	79 (54.9)	27 (18.8)	0	27 (18.8)
20-29	180 (19.9)	435 (48.2)	123 (13.6)	12 (1.3)	153 (16.9)
30-39	314 (36.6)	358 (41.7)	88 (5.6)	17 (2.0)	122 (14.2)
40+	110 (31.9)	143 (41.4)	12 (3.5)	31 (9.0)	49 (14.2)
Total	615 (26.8)	1015 (44.3)	250 (10.9)	60 (2.6)	351 (15.3)

When modes of transmission reported for HIV infections are examined by age some difference can be detected. Heterosexual activity was the risk identified in greater than 49% of all reports in females under 30 years of age (Table 8). Intravenous drug use was most common in women 30 to 39 (37% of reports) and has been reported in only 8% of adolescent females. Multi-heterosexual activity accounts for 19% of adolescent female risks and 14% of 20 to 29 year olds but drops to 4% in females older than 29 years. Exposure to a contaminated blood product was seen in 9% of women over 39 years but < 2% in women younger than 40.

Seroprevalence Study of Women of Childbearing Years

To more clearly identify the prevalence of HIV infection in women of childbearing ages, the CDC has supported a national effort to estimate the prevalence of HIV infection among this group. This population-based, blinded seroprevalence study began in Virginia in 1989 and continued through mid-1995. The study was designed to take advantage of the fact that all states require blood testing of newborn infants to rule out the presence of several metabolic diseases. Once the required tests have been run, the samples, minus all identifiers, were tested for the presence of antibodies to HIV. The presence of antibodies in the newborn indicates infection in the mother

but not necessarily infection in the infant. Because the study was population-based, it provided an accurate way to assess the number of women with HIV giving birth and the number of babies being born with the potential for HIV infection. An important consideration of the study was that it only measured HIV exposure in live infants. During 1994, the last complete year of the study in Virginia, 81,401 infants were tested and 98 were found to be positive for antibodies to the HIV. This translates into a prevalence rate of 1.2 HIV infections per 1,000 women giving birth in Virginia to live infants. The majority of the positive tests (79/98, 81%) were in infants born to black mothers, for a prevalence rate of 4.2 HIV-positive women per 1,000 black women giving birth in Virginia to live infants. Sixteen percent were born to white mothers and 3% to women of other races, resulting in rates of 0.3 per 1,000 women giving birth to live infants for both groups. When the HIV-positive women identified through this study were examined by age, females in the 20-29 year age group accounted for 68% of the infections during 1994. Females 30 to 39 years of age made up 22%, those 15 to 19 years 7% and those over 40 1%.

Table 9. Estimate of HIV Infections in Women between the Ages of 15-44 Years, Virginia 1994

Region	# HIV Positive/ # Tested	Prevalence/1,000 (women 15-44)*	1990 Population (women, 15-44)	Estimated Infections (women, 15-44)**
Northwest	7/10,896	0.64	201,078	129
Northern	15/20,381	0.74	395,908	291
Southwest	13/12,621	1.03	289,904	299
Central	20/13,984	1.43	262,460	375
Eastern	43/23,519	1.83	384,707	703
State Total	98/81,401	1.20	1,534,057	1841§

* (# HIV-positive / # tested) X 1,000

** Prevalence rate X 1990 population

§ This number does not equal the sum of the regions due to rounding of rate figures.

The distribution of HIV-positive childbearing women is also different in different regions of the state. Table 9 provides data for 1994 showing the prevalence rate in the five health planning regions of the state and the estimated number of infections regionally and statewide in women 15-44 years. It is important to note that the estimated infections listed in Table 9 are probably low estimates of the total number of women of childbearing ages with HIV due to the fact that only live births were tested and HIV-positive women may not be equally likely to give birth to a live infant as HIV-negative women.

B. HIV/AIDS in Gay Men of Color

There have been 3,467 black males reported with AIDS since reporting began. This accounts for 45% of male reports and 38% of all AIDS reports. Although reports in all blacks, males and females, accounted for over 50% of annual reports for the first time in 1993, it was not until 1994 that black males accounted for over 50% of reports in males (514/1039). This is in contrast to reports of HIV infection where black males have made up over 50% of reports in males for each full year of reporting and account for 61% of all male reports received (4225/6930).

There have been 1,667 reports of AIDS in black males with an identified risk factor of MSM. An additional 293 reports in black males have been received with a risk of MSM/IDU. The MSM reports account for 48% of all AIDS reports among black males; those reporting both MSM and IDU are an additional 8%. In contrast, among white males, MSM has been reported 81% of the time and MSM/IDU 5%. Reporting of MSM among black males with AIDS has decreased 44% since 1982-84 but remains the single most significant cause of HIV infection among black men (Figure 89).

AIDS BY TRANSMISSION AMONG BLACK MALES BY YEAR OF REPORT
Numbers Reflect Percent of Total Cases Among Black Males

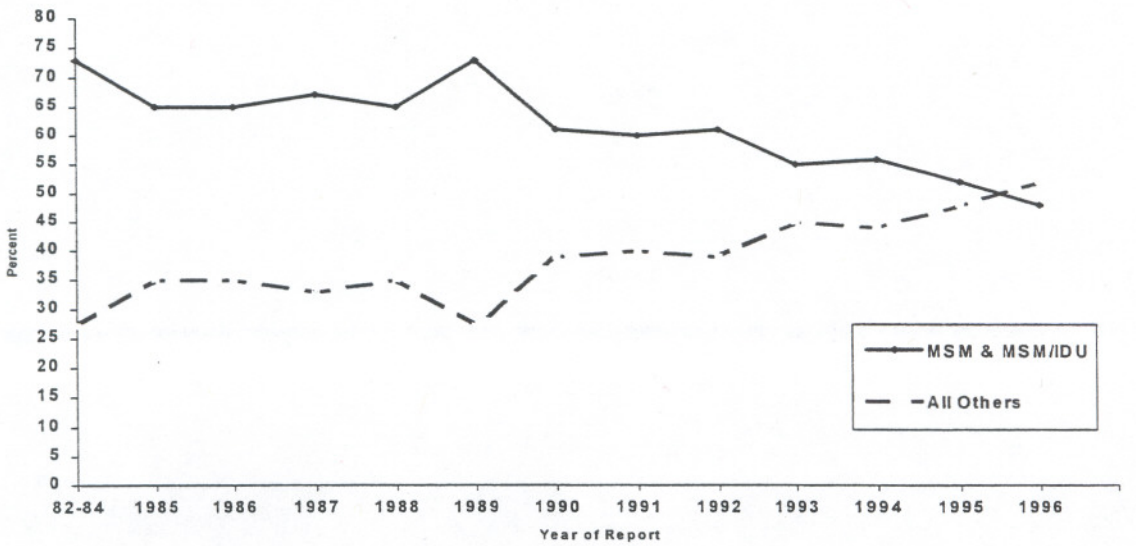


Figure 89

There have been 1,635 reports of HIV infection in black males with an identified transmission mode of MSM and 302 reporting MSM and IDU. This represents 46% of HIV infection reports among black males (MSM 39%, MSM/IDU 7%). As with AIDS, this is a smaller proportion than with white males where a total of 71% of reports involve MSM activity (65% MSM and 6% MSM/IDU). Although the number of reports of HIV infection among blacks is decreasing, the proportion of MSM and MSM/IDU has remained relatively stable (Figure 90).

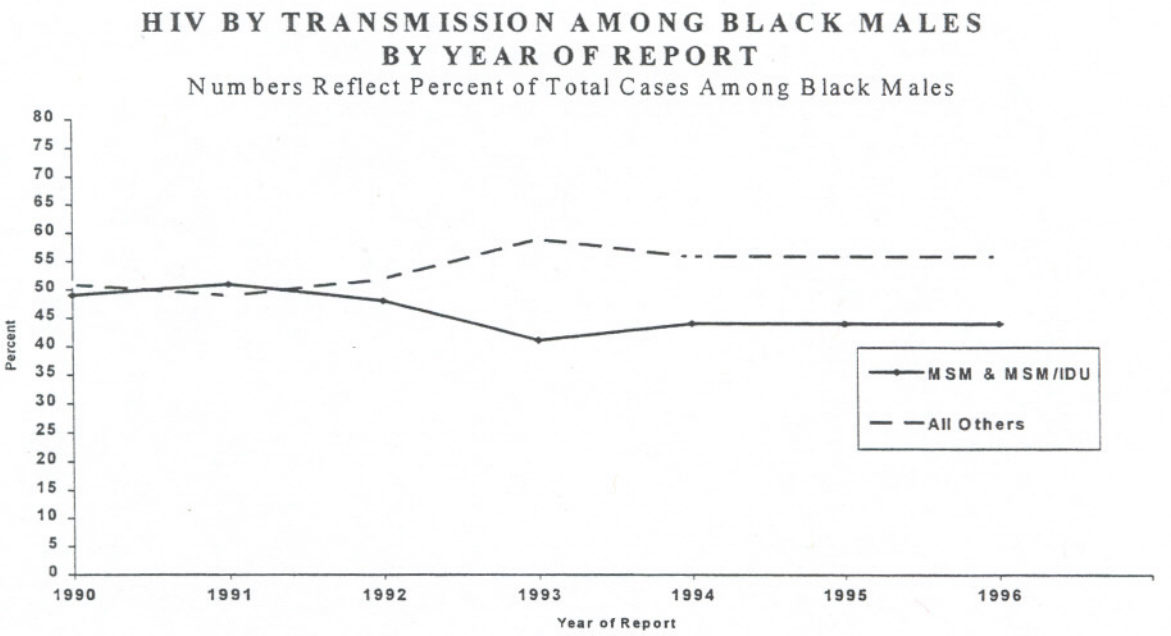


Figure 90

Gay black males are younger than black males reporting a risk of IDU or heterosexual activity with an at-risk partner (AIDS: 35.2 years for MSM, 35.3 for MSM/IDU versus 39.2 years and 37.3 years, respectively; HIV: 32.2 years for MSM, 34.4 for MSM/IDU versus 37.7 years and 35.3 years, respectively). There have been only five reports of AIDS for black males with a risk of MSM between the ages of 13 and 19 but there have been 47 reports in this age group for HIV infection, 43 with a transmission mode of MSM and four reporting both MSM and IDU. The most commonly reported age group for reports of AIDS among gay black males has been the 30 to 39 year group (51% of reports in gay black males). Persons over 40 years of age have been

reported 25% of the time and those between 20 and 29 account for 24% of reports. This trend will likely change though, for reports of HIV infection among gay black males are most frequent in the 20 to 29 year group (42% of all reports), followed by those aged 30 to 39 years (38%) and individuals over 40 years (17%). As seen in Figure 91, reports among 20 to 29 year olds are decreasing in relation to those in gay black males over 40.

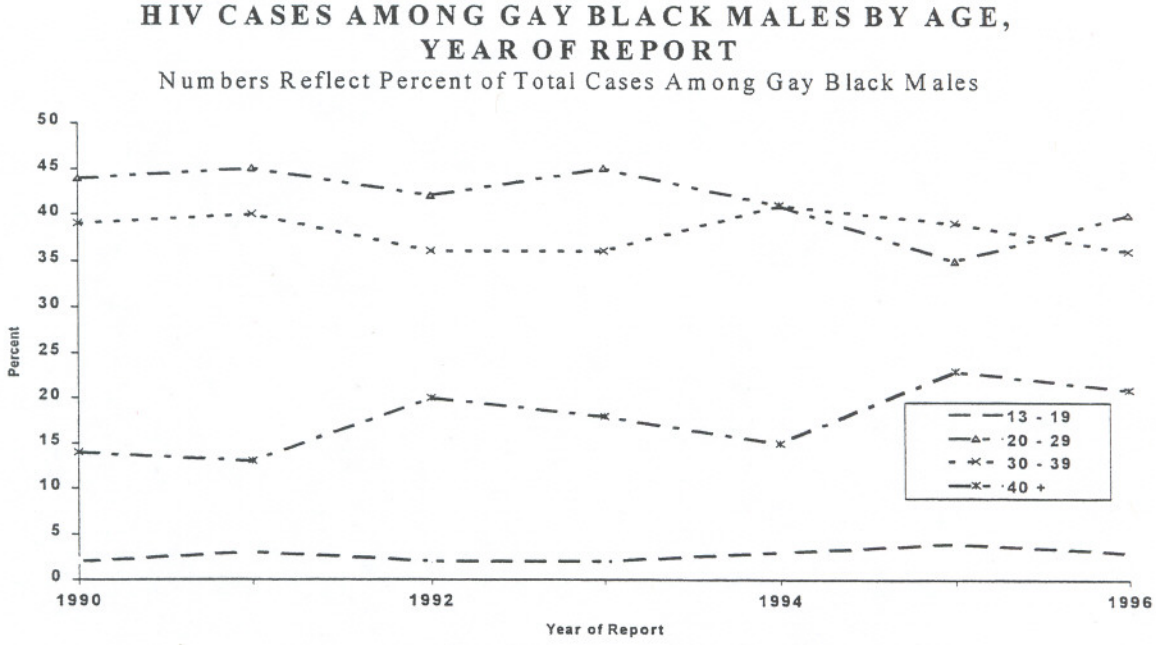


Figure 91

The Eastern and Central Regions of Virginia have been reported most frequently as the areas of residence for black men reporting a risk behavior of MSM or MSM/IDU, whether for AIDS or HIV infection. The Eastern Region accounts for the highest proportion of all MSM-associated reports, with a breakdown for AIDS of 38% for both MSM-associated reports and MSM/IDU reports and for HIV infection, 47% of MSM reports and 38% of MSM/IDU reports. When the data are examined annually, though, it is seen that the Eastern and Central regions have alternated in having the highest proportion of AIDS reports (Figures 92 & 93). With AIDS, the Northern Region was represented more frequently in the 1980s but has decreased in number of reports since 1990. For HIV infections only, the risk behavior MSM/IDU is reported more frequently from the Central Region (42% of MSM/IDU HIV reports in black males report a residence in the Central

Region versus 38% in the Eastern Region, 9% in the Northern Region, 8% in Southwest Virginia and 4% in Northwest Virginia).

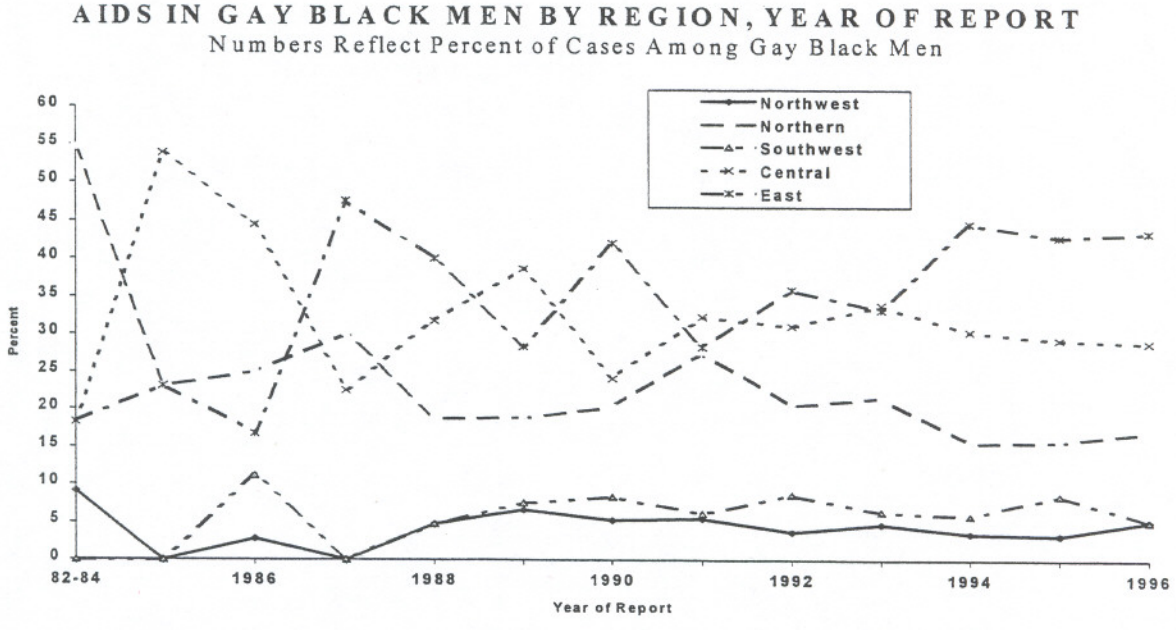


Figure 92

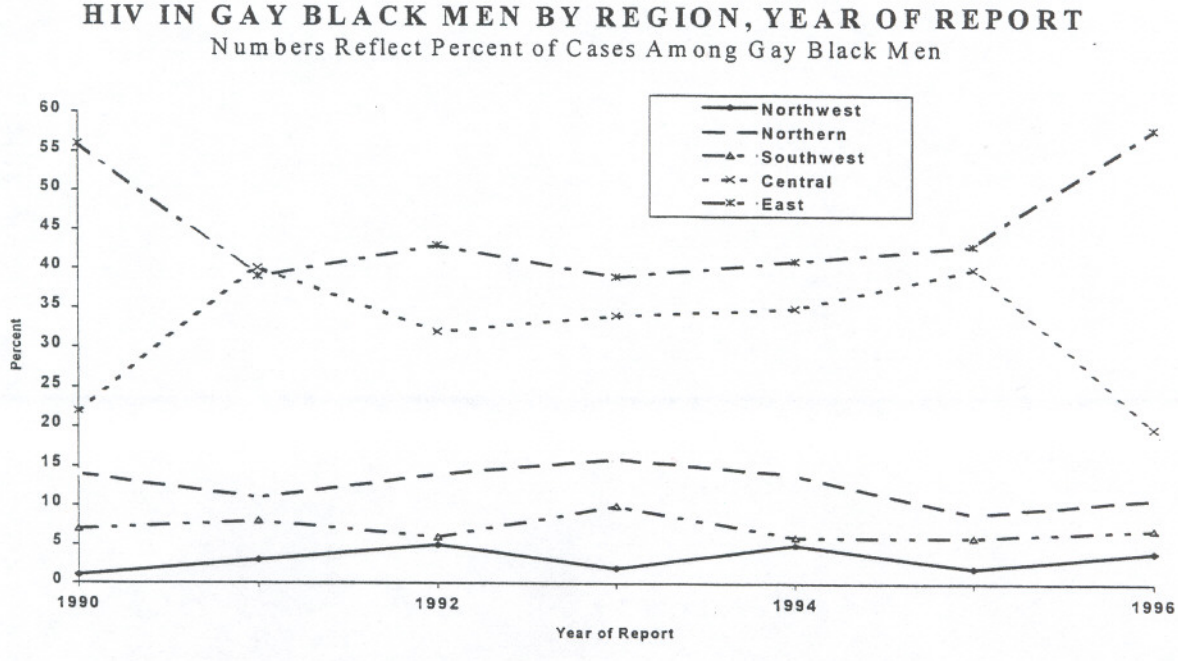


Figure 93

C. HIV/AIDS in Youth (ages 13-19)

There have been 43 individuals between the ages of 13 and 19 years reported with AIDS in Virginia since reporting began, 63% males and 37% females. The average age at which they were diagnosed with AIDS was 16.1 years for males and 17.3 for females. Fifty-six percent of these cases were in non-Hispanic blacks, 37% in non-Hispanic whites, 5% Hispanics and 2% in adolescents of other races.

The mode of transmission reported most frequently among adolescent cases of AIDS was exposure to a blood product (33%), followed by MSM and heterosexual activity with an at-risk partner (17% each). Six percent of these youths were exposed to HIV as a child < 13 years of age. No identifiable risk factor was the conclusion in 22% of all adolescent cases of AIDS.

The Eastern Region of Virginia was the region of residence for 13 of the 43 cases of AIDS in youths (30%). The Central Region accounted for 12 cases (28%), the Northern Region 11 (26%), the Northwest 4 (9%) and the Southwest 3 (7%).

As of December 31, 1996, there were 24 adolescents, 13 to 19 years of age, living with AIDS in Virginia. Regional breakdowns by region of report indicate that 8 of them live in the Eastern Region (33%), 7 in the Central Region (29%), 6 in the Northern Region (25%), 3 in the Northwest and Southwest combined (13%).

Since the reporting of HIV infection began, there have been 267 reports among adolescents. It is of concern that although HIV reports are decreasing overall, those in the 13 to 19 year age group are not. The trends in annual number of reports in persons 20 years and older show a clear decline (Figure 94), and the decrease in number of reports in those groups since 1990 ranges from 34% in persons over 40 years to 47% in those between 20 and 29. Although the annual number of reports in the adolescent group was less in 1996 (41) than in 1991 (46), the proportion of total reports was greater; 4.2% of total in 1996 versus 2.8% of total in 1991.

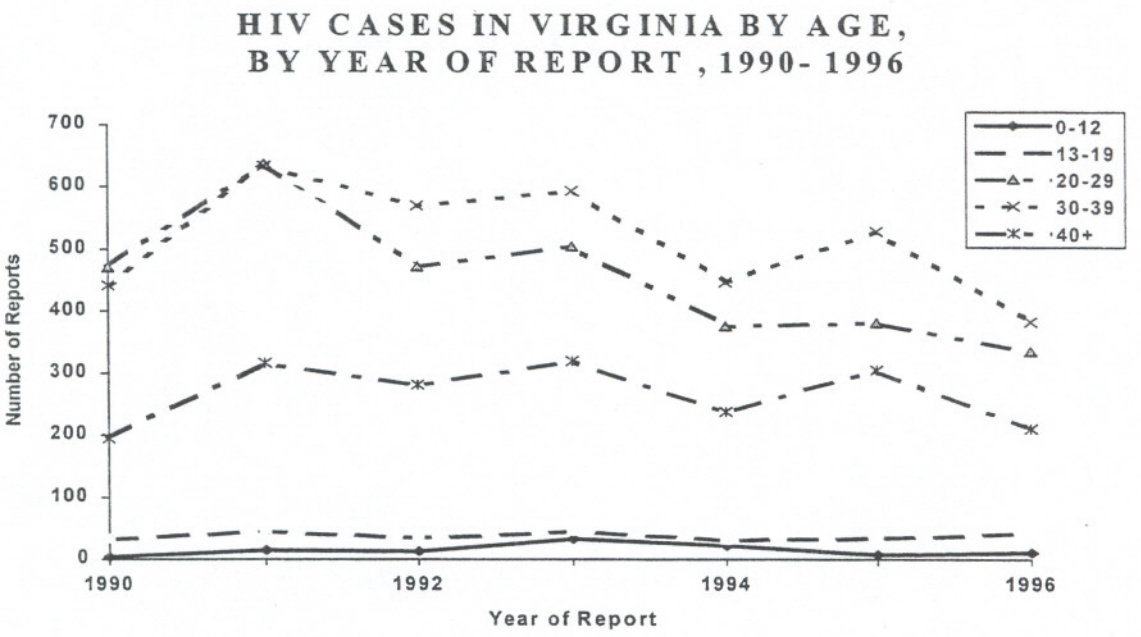


Figure 94

The reports of HIV among youth have been more common in females than in males (54% females, 46% males) for most years of reporting (Figure 95). The average age for females

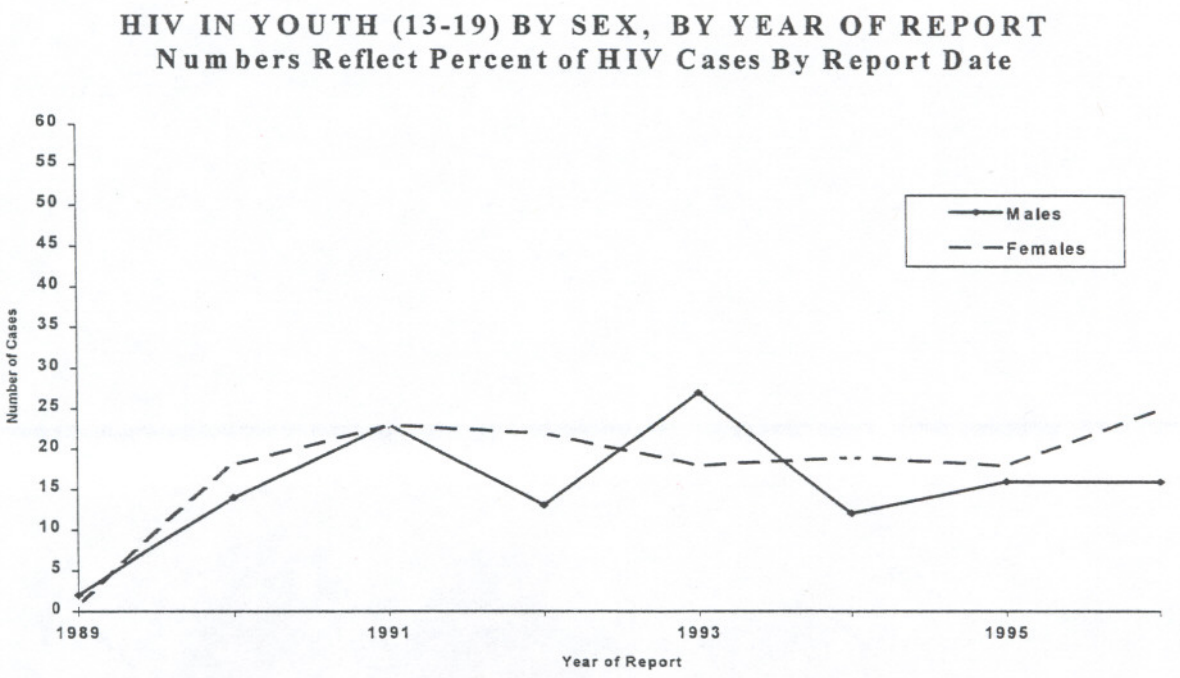


Figure 95

reported as HIV-positive while a teenager was 17.6 years, for males 18.1 years. This difference in age at the time of report does not necessarily mean that females are infected at a younger age. Females are more likely to seek health care while an adolescent, possibly for family planning purposes, and therefore, may simply receive testing sooner. Both males and females are more likely to be non-Hispanic black than any other racial/ethnic group (66% males, 69% females) (Figure 96). Non-Hispanic whites accounted for 33% of the male adolescents and 26% of the females while Hispanics were <1% of males and 4% of females. There were no males of other races but they made up 1% of the females.

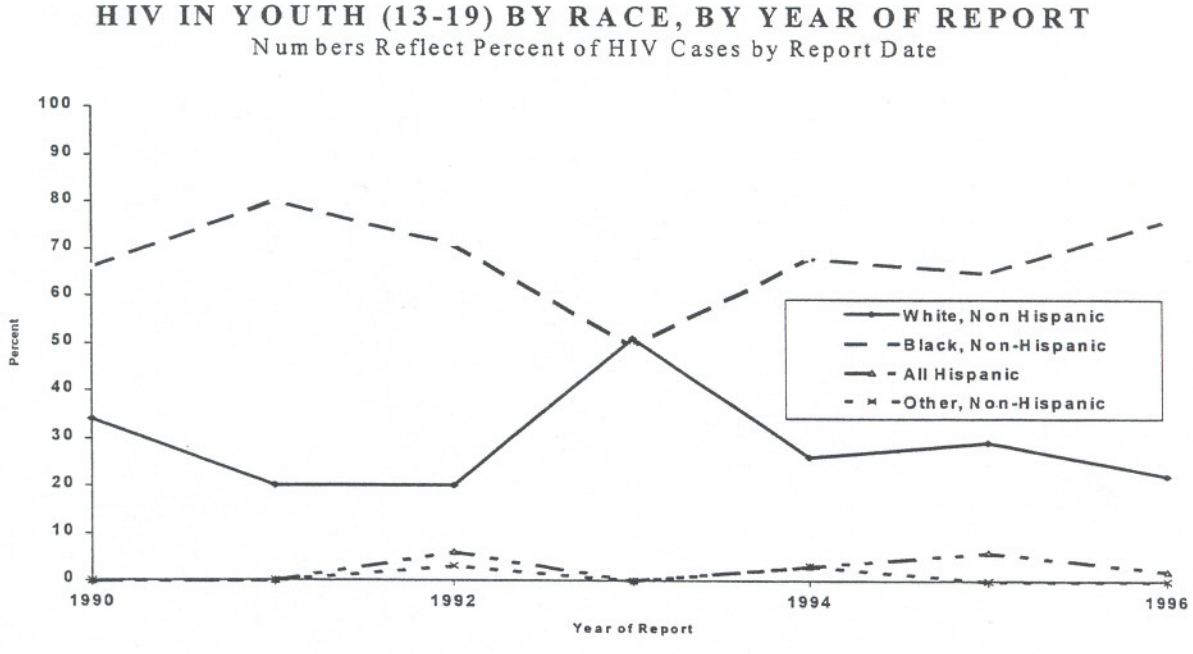


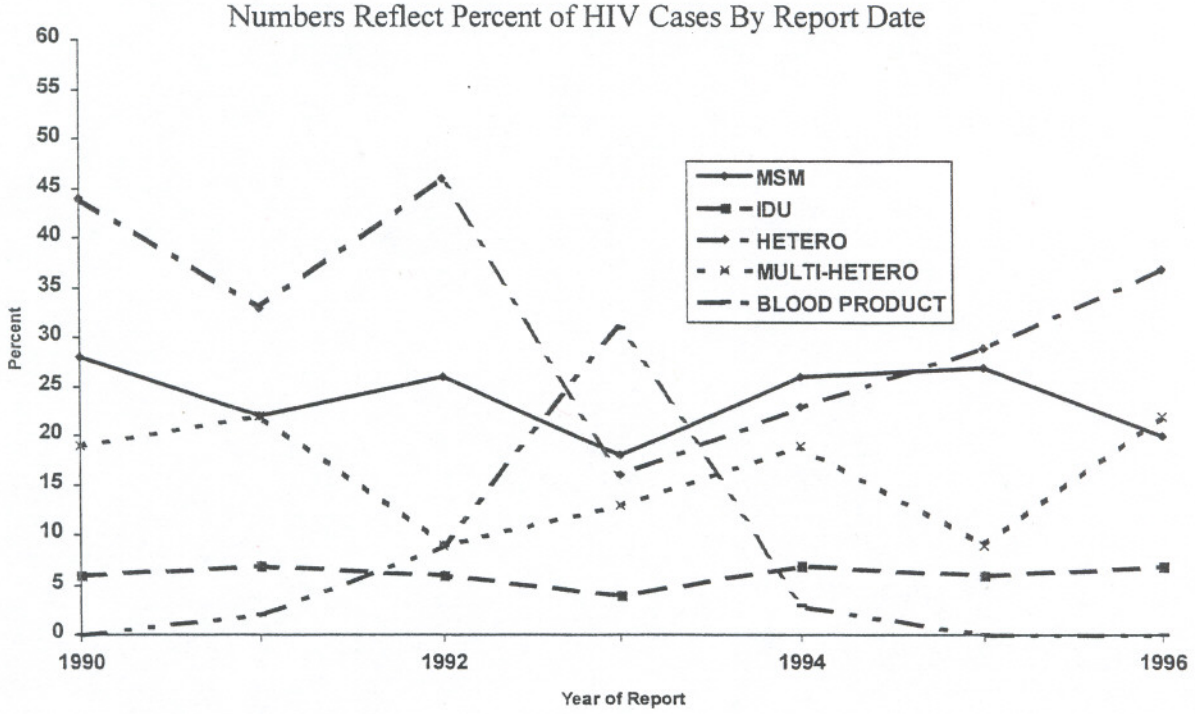
Figure 96

The modes of transmission for HIV infection reported most frequently in the adolescent age group were heterosexual activity with an at-risk partner (32% of reports in this age group), MSM (23%), multi-heterosexual activity (17%), exposure to blood products (7%) and IDU (6%) (Figure 97). The high proportion of reports associated with heterosexual activity is due to the high frequency of females in this group. This risk was associated with 55% of all female reports in this age group compared with only 5% of reports in adolescent males. Multi-heterosexual activity was identified as the risk in 19% of HIV infections in females 13 to 19 years of age and in 14% of the reports in males. Injecting drug use was also more common among female youth (8% of female reports

versus 4% of male reports). The most commonly reported risk in males 13 to 19 years of age was MSM, accounting for 50% of all reports. Exposure to a blood product due to hemophilia was the second most common transmission mode for reports of HIV infection in males, accounting for 15% of all reports. The peak in hemophilia-associated reports seen in 1993 was due to a number of reports received that year on individuals diagnosed previously. Since 1993, this risk factor has been identified in 1% or less of reports of HIV in teens. No identified risk could be identified for 19% of female youth and 7% of male youth with HIV infection.

HIV IN YOUTH (13-19) BY MODE OF TRANSMISSION, BY YEAR OF REPORT

Numbers Reflect Percent of HIV Cases By Report Date



Only predominant modes of transmission represented on this chart

Figure 97

The Eastern Region was the region of residence in 45% of HIV infection reports received on adolescents 13 to 19 years of age. The Central Region accounted for 21%, the Southwest Region 14%, the Northern Region 13% and the Northwest Region 6%. Figure 98 shows that the Eastern Region has been the most frequently reported region of the state among this age group for all the

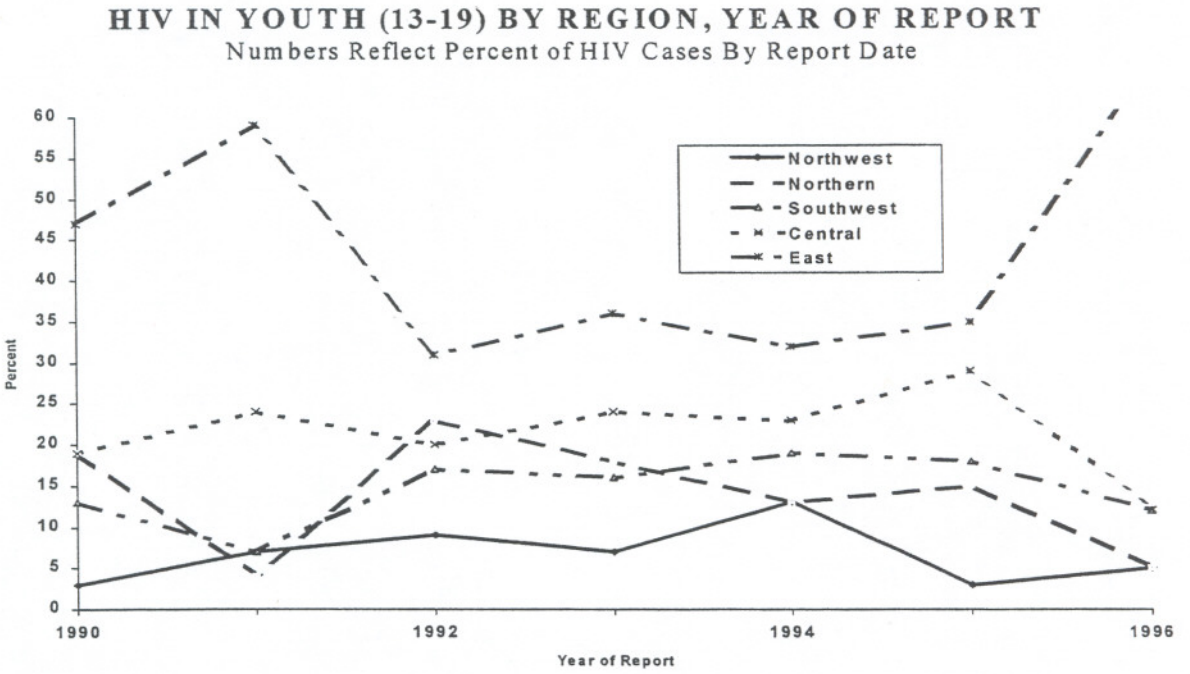


Figure 98

years of reporting. The number of reports from Eastern Virginia increased from 12 reports in 1995 to 27 reports in 1996, accounting for 66% of all reports received in 1996.

As of December 31, 1996, 221 of the 267 youth reported (83%) were living with HIV infection with no diagnosis of AIDS. The gender and racial breakdowns of this group follow those seen among the reports. There were slightly more females than males (52% versus 48%, respectively) and the majority (68%) were non-Hispanic black. The region of residence at time of testing also follows a distribution similar to the reports: 46% reported Eastern Region, 21% Central Region, 14% Northern Virginia, 13% Southwest Virginia, and 7% Northwest.

CONCLUSION

In this report, we have presented an analysis of HIV and AIDS surveillance data collected in Virginia since the beginning of AIDS case reporting in 1982, with particular attention paid to the changes in mode of transmission and gender, race and age of persons with HIV/AIDS over time. In addition to providing statewide and regional data, we have addressed certain populations of special concern, including women of childbearing age, gay men of color, and adolescents. The special needs of these populations are of particular concern to educators and service providers in Virginia who are developing targeted curricula and outreach activities at this time. Future versions of this report will continue to address populations of special concern, based on the path of the epidemic and the perceived needs of health care workers and educators for additional and/or more sensitive information for effective service and outreach planning.

The primary purpose of this report has been to present epidemiologic information in a straightforward manner, so that a variety of audiences can use it to meet their needs. This document can be thought of as a baseline and annual updates will be made widely available throughout the Virginia public health system, as well as through HIV/AIDS prevention and service networks.

An evaluation form is included inside the back cover, which we hope you will complete and return to us at the VCU Survey Research Lab. The form has our address printed on it and is computer-coded for postage, so you can triple-fold, staple, and drop it in the mail. We will appreciate your comments about the report and welcome your suggestions for the next one.

APPENDIX

Table A1. Persons Living with AIDS, Virginia and Regions, 1996

	Virginia	Northwest Region	Northern Region	Southwest Region	Central Region	Eastern Region
Total Number Reported	9,015	594	2,831	803	2,147	2,640
(% State Total)	(100.0)	(6.6)	(31.4)	(8.9)	(23.8)	(29.3)
Total Number Living	3553	242	1,026	304	873	1,089
(% State Total)	(100.0)	(6.8)	(28.9)	(8.6)	(24.6)	(30.7)
Rate / 100,000	53.0	25.8	63.1	23.6	76.1	64.1
Males	2953	202	898	252	724	860
(% Region Total)	(83.1)	(83.5)	(87.5)	(82.9)	(82.9)	(79.0)
(% State Total)	(100.0)	(6.8)	(30.4)	(8.5)	(24.5)	(29.1)
Females	600	40	128	52	149	229
(% Region Total)	(16.9)	(16.5)	(12.5)	(17.1)	(17.1)	(21.0)
(% State Total)	(100.0)	(6.7)	(21.3)	(8.7)	(24.8)	(38.2)
White Non-Hispanic	1521	132	584	164	253	378
(% Region Total)	(42.8)	(54.5)	(56.9)	(53.9)	(29.0)	(34.7)
(% State Total)	(100.0)	(8.7)	(38.4)	(10.8)	(16.6)	(24.9)
Black Non-Hispanic	1869	100	354	133	603	387
(% Region Total)	(52.6)	(41.3)	(34.5)	(43.8)	(69.1)	(34.7)
(% State Total)	(100.0)	(5.4)	(18.9)	(7.1)	(32.3)	(20.7)
Hispanics	130	9	70	5	14	32
(% Region Total)	(3.7)	(3.7)	(6.8)	(1.6)	(1.6)	(2.9)
(% State Total)	(100.0)	(6.9)	(53.9)	(3.8)	(10.8)	(24.6)
Other	28	1	18	2	3	8
(% Region Total)	(0.8)	(0.4)	(1.8)	(0.7)	(0.3)	(0.7)
(% State Total)	(100.0)	(3.6)	(64.3)	(7.1)	(10.7)	(28.6)

Table A2. Persons Living with HIV, Virginia and Regions, 1996

	Virginia	Northwest Region	Northern Region	Southwest Region	Central Region	Eastern Region
Total Number Reported	9,230	460	1,845	801	2,409	3,694
(% State Total)	(100.0)	(5.0)	(20.0)	(8.7)	(26.1)	(40.0)
Total Number Living	6,232	330	1320	511	1594	2477
(% State Total)	(100.0)	(5.3)	(21.2)	(8.2)	(25.6)	(39.7)
Rate / 100,000	93.0	35.2	81.1	39.7	138.9	145.7
Males	4,561	242	928	359	1195	1,837
(% Region Total)	(73.2)	(73.3)	(70.3)	(70.3)	(75.0)	(74.2)
(% State Total)	(100.0)	(5.3)	(20.3)	(7.9)	(26.2)	(40.3)
Females	1,671	88	392	152	399	640
(% Region Total)	(26.8)	(26.7)	(29.7)	(29.7)	(25.0)	(25.8)
(% State Total)	(100.0)	(5.3)	(23.5)	(9.0)	(23.9)	(38.3)
White Non-Hispanic	1,904	172	469	230	360	673
(% Region Total)	(30.6)	(52.1)	(35.5)	(45.0)	(22.6)	(27.2)
(% State Total)	(100.0)	(9.0)	(24.6)	(12.1)	(18.9)	(35.3)
Black Non-Hispanic	4,082	150	754	268	1204	1706
(% Region Total)	(65.5)	(45.5)	(57.1)	(52.5)	(75.5)	(68.9)
(% State Total)	(100.0)	(3.7)	(18.5)	(6.6)	(29.5)	(41.8)
Hispanic	156	4	65	6	24	57
(% Region Total)	(2.5)	(1.2)	(4.9)	(1.2)	(1.5)	(2.3)
(% State Total)	(100.0)	(2.6)	(41.7)	(3.8)	(15.4)	(36.5)
Other	90	4	32	7	6	41
(% Region Total)	(1.4)	(1.2)	(2.4)	(1.4)	(0.4)	(1.7)
(% State Total)	(100.0)	(4.4)	(35.6)	(7.8)	(6.7)	(45.6)

Table A3. Persons Living with AIDS* in the Northwest Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	0	2	0	0	2	0	2	0	0	2	4 (1.7)
13-19	0	0	0	0	0	0	1	1	0	2	2 (0.8)
20-29	35	10	2	0	47	8	7	0	0	15	62 (25.6)
30-39	51	31	4	0	86	4	11	0	0	15	101 (41.7)
40+	32	32	2	1	67	2	4	0	0	6	73 (30.2)
Total	118	75	8	1	202 (83.5)	14	25	1	0	40 (16.5)	242

*Living as of 12/31/96

Table A4. Persons Living with HIV* in the Northwest Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	4	2	0	0	6	1	2	0	0	3	9 (2.7)
13-19	8	2	0	0	10	2	3	0	0	5	15 (4.5)
20-29	53	30	2	1	86	17	24	0	0	41	127 (38.5)
30-39	49	37	1	1	88	12	15	0	1	28	116 (35.2)
40+	22	28	1	1	52	4	7	0	0	11	63 (19.1)
Total	136	99	4	3	242 (73.3)	36	51	0	1	88 (26.7)	330

*Living as of 12/31/96

Table A5. Persons Living with AIDS* in the Northern Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	3	2	1	0	6	3	3	0	0	6	12 (1.1)
13-19	2	1	1	0	4	0	1	0	1	2	6 (0.6)
20-29	101	39	21	2	163	6	21	2	2	31	194 (18.9)
30-39	234	142	25	7	408	18	33	5	0	56	464 (45.2)
40+	208	91	13	5	317	9	21	2	1	33	350 (34.1)
Total	548	275	61	14	898 (87.5)	36	79	9	4	128 (12.5)	1026

*Living as of 12/31/96

Table A6. Persons Living with HIV* in the Northern Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	3	4	0	0	7	2	2	0	0	4	11 (0.8)
13-19	6	3	1	0	10	6	12	1	1	20	30 (2.3)
20-29	108	131	25	6	270	36	108	7	6	157	427 (32.3)
30-39	162	230	16	10	418	39	117	8	4	168	586 (44.4)
40+	94	117	7	5	223	13	30	0	0	43	266 (20.2)
Total	373	485	49	21	928 (70.3)	96	269	16	11	392 (29.7)	1320

*Living as of 12/31/96

Table A7. Persons Living with AIDS* in the Southwest Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	2	3	0	0	5	2	3	0	0	5	10 (3.3)
13-19	0	0	0	0	0	0	1	0	0	1	1 (0.3)
20-29	31	17	3	0	51	5	10	0	0	15	66 (21.7)
30-39	79	51	1	0	131	5	17	0	0	22	153 (50.3)
40+	34	28	1	2	65	6	3	0	0	9	74 (24.3)
Total	146	99	5	2	252 (82.9)	18	34	0	0	52 (17.1)	304

*Living as of 12/31/96

Table A8. Persons Living with HIV* in the Southwest Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	1	1	0	0	2	2	0	0	0	2	4 (0.8)
13-19	7	5	0	0	12	6	10	0	0	16	28 (5.5)
20-29	71	50	1	2	124	22	47	0	0	69	193 (37.8)
30-39	70	74	2	4	150	14	33	0	0	47	197 (38.6)
40+	30	38	2	1	71	7	10	1	0	18	89 (17.4)
Total	179	168	5	7	359 (70.3)	51	100	1	0	152 (29.7)	511

*Living as of 12/31/96

Table A9. Persons Living with AIDS* in the Central Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	2	6	0	0	8	1	5	0	0	6	14 (1.6)
13-19	1	3	0	0	4	0	3	0	0	3	7 (0.8)
20-29	44	89	1	1	135	6	15	1	0	22	157 (18.0)
30-39	116	219	9	0	344	11	55	2	0	68	412 (47.2)
40+	68	162	1	2	233	4	46	0	0	50	283 (32.4)
Total	231	479	11	3	724 (82.9)	22	124	3	0	149 (17.1)	873

*Living as of 12/31/96

Table A10. Persons Living with HIV* in the Central Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	1	5	0	0	6	0	7	0	0	7	13 (0.8)
13-19	3	20	0	0	23	4	17	1	0	22	45 (2.8)
20-29	126	297	5	1	429	27	129	2	0	158	587 (36.8)
30-39	116	341	11	2	470	17	135	0	2	154	624 (39.1)
40+	58	203	5	1	267	8	50	0	0	58	325 (20.4)
Total	304	866	21	4	1195 (75.0)	56	338	3	2	399 (25.0)	1594

*Living as of 12/31/96

Table A11. Persons Living with AIDS* in the Eastern Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	5	11	0	0	16	5	15	0	0	20	36 (3.3)
13-19	2	6	0	0	8	0	0	0	0	0	8 (0.7)
20-29	86	113	5	3	207	8	40	3	1	52	259 (23.8)
30-39	163	214	9	1	387	20	72	6	1	99	486 (44.6)
40+	82	153	6	1	242	7	47	3	1	58	300 (27.5)
Total	338	497	20	5	860 (79.0)	40	174	12	3	229 (21.0)	1089

*Living as of 12/31/96

Table A12. Persons Living with HIV* in the Eastern Region of Virginia by Age, Race and Sex

	Males					Females					
Age Group (Years)	White Males	Black Males	Hispanic Males	Other Males	Total Males (%)	White Females	Black Females	Hispanic Females	Other Females	Total Females (%)	Total (%)
0-12	2	4	1	0	7	0	5	1	0	6	13 (0.5)
13-19	8	41	0	0	49	14	36	1	1	52	101 (4.1)
20-29	261	493	15	17	786	51	206	13	3	273	1059 (42.8)
30-39	210	443	17	14	684	34	195	3	0	232	916 (37.0)
40+	81	219	5	6	311	12	64	1	0	77	388 (15.7)
Total	562	1200	38	37	1837 (74.2)	111	506	19	4	640 (25.8)	2477

*Living as of 12/31/96

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